ROYAL FREE LONDON NHS FOUNDATION TRUST

OUTLINE BUSINESS CASE

CHASE FARM HOSPITAL REDEVELOPMENT

March 2015
V1.1 – Redacted Version
<table>
<thead>
<tr>
<th>version</th>
<th>date</th>
<th>amendment description</th>
<th>circulation</th>
<th>author</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>14.11.14</td>
<td>Initial draft for review and comment</td>
<td>operational steering group members, programme team and key trust staff</td>
<td>Helen Pickering / Anna Bellamy</td>
</tr>
<tr>
<td>0.2</td>
<td>03.12.14</td>
<td>Incorporation of comments received and progress made</td>
<td>operational steering group members, programme team, key trust staff, DH (Joe Clyne, Ted Griggs, Lubna Azam)</td>
<td>Helen Pickering / Anna Bellamy plus inputs from other Trust staff</td>
</tr>
<tr>
<td>0.2A</td>
<td>12.12.14</td>
<td>Incorporation of comments received and progress made – issued for review by CMG</td>
<td>CMG members</td>
<td>Helen Pickering / Anna Bellamy</td>
</tr>
<tr>
<td>0.3</td>
<td>15.12.14</td>
<td>Incorporation of comments received (KF, DH) and progress made</td>
<td>operational steering group members, programme team, key trust staff</td>
<td>Helen Pickering / Anna Bellamy plus inputs from other Trust staff</td>
</tr>
<tr>
<td>0.4</td>
<td>23.12.14</td>
<td>Incorporation of comments received and progress made</td>
<td>S&amp;I committee (exec summary), Programme Board (exec summary), operational steering group members, programme team, key trust staff, DH (Joe Clyne, Ted Griggs, Lubna Azam)</td>
<td>Helen Pickering / Anna Bellamy plus inputs from other Trust staff</td>
</tr>
<tr>
<td>0.5</td>
<td>23.01.15</td>
<td>Incorporation of comments received by CFH Programme Board, NED briefings and DH</td>
<td>Trust Board for approval</td>
<td>Helen Pickering / Anna Bellamy plus inputs from other Trust staff</td>
</tr>
<tr>
<td>1.0</td>
<td>30.01.15</td>
<td>Approved version by RFL Trust Board</td>
<td>DH/Treasury for approval</td>
<td>Helen Pickering / Anna Bellamy plus inputs from other Trust staff</td>
</tr>
<tr>
<td>1.1 Redacted</td>
<td>11.03.15</td>
<td>Additions and clarifications relating to comments received from DH. Commercially sensitive information redacted.</td>
<td>DH/Treasury for approval</td>
<td>Helen Pickering / Anna Bellamy plus inputs from other Trust staff</td>
</tr>
</tbody>
</table>
CONTENTS

1. Executive summary ........................................................................................................... 9
   1.1 Introduction ................................................................................................................ 9
   1.2 Strategic case ............................................................................................................. 9
   1.3 Economic case .......................................................................................................... 13
   1.4 Finance case ............................................................................................................. 15
   1.5 Commercial case ..................................................................................................... 16
   1.6 Management case .................................................................................................... 18
   1.7 Recommendation ..................................................................................................... 22

2. Strategic case .................................................................................................................. 23
   2.1 Introduction ............................................................................................................. 23
   2.2 The strategic context ............................................................................................... 23
   2.3 Description of the trust and its services .................................................................. 29
   2.4 The case for change ................................................................................................. 38
   2.5 Programme vision and objectives ............................................................................. 41
   2.6 Proposed OBC scope and deliverables ...................................................................... 42
   2.7 Activity modelling .................................................................................................... 45
   2.8 Services overview on the CFH site ......................................................................... 48
   2.9 Capacity requirements ............................................................................................. 50
   2.10 Stakeholder engagement ......................................................................................... 54
   2.11 Benefits .................................................................................................................... 56
   2.12 Constraints, dependencies and key assumptions .................................................... 56

3. Strategic case – design, estates and facilities ................................................................. 58
   3.1 Design quality and philosophy ................................................................................. 58
   3.2 Design compliance and reviews .............................................................................. 62
   3.3 Information technology ............................................................................................. 65
   3.4 Travel plan ................................................................................................................ 66

4. Economic case ................................................................................................................ 68
   4.1 Introduction ............................................................................................................. 68
   4.2 Critical success factors and objectives for the investment ...................................... 68
   4.3 Benefit criteria for appraising options ..................................................................... 69
   4.4 Long list of options ................................................................................................. 71
   4.5 Short list of options ............................................................................................... 74
4.6 Non-financial options appraisal ................................................................. 76
4.7 Financial options appraisal ...................................................................... 79
4.8 Risk appraisal .......................................................................................... 84
4.9 Cost benefit analysis .............................................................................. 86
4.10 Sensitivity analysis ................................................................................ 87
4.11 Quantification of benefits ...................................................................... 87
4.12 The preferred option ............................................................................. 89
5. Finance case .............................................................................................. 91
  5.1 Introduction ............................................................................................. 91
  5.2 Summary of financial position .............................................................. 91
  5.3 Past financial performance of the trust ................................................. 92
  5.4 Methodology for forecasting the Chase Farm activity and Statement of Comprehensive Income ................................................................. 94
  5.5 Key assumptions .................................................................................... 96
  5.6 Forecast income and expenditure account (FY16-FY19) ...................... 97
  5.7 Impact of activity transfer on Barnet Hospital ...................................... 98
  5.8 Impact on statement of financial position ............................................ 98
  5.9 Financing of capital ................................................................................ 99
  5.10 Impact on continuity of services risk rating ....................................... 99
  5.11 Impact on statement of cash flows ...................................................... 99
  5.12 Impairment ............................................................................................ 99
  5.13 Risk assessment .................................................................................... 100
6. Commercial case ...................................................................................... 101
   6.1 Procurement of built solution .............................................................. 101
   6.2 Key commercial and legal issues ........................................................ 105
   6.3 IM&T ..................................................................................................... 105
   6.4 FM Services ......................................................................................... 107
   6.5 Equipment strategy ............................................................................. 107
   6.6 Planning consent .................................................................................. 108
   6.7 Disposal strategy .................................................................................. 110
7. Management case ...................................................................................... 112
   7.1 Benefits ................................................................................................ 112
   7.2 Programme governance ...................................................................... 113
   7.3 Resourcing strategy ............................................................................. 119
Appendices

2. **Strategic case appendices**
   2A Trust Medical Director and Director of Nursing support letter
   2B Transaction Agreement clauses concerning CFH
   2C Exclusions plans
   2D Clinical services specifications (draft)
   2E Schedule of accommodation
   2F Accelerated learning event summary
   2G Commissioners’ letter of support
   2H Existing backlog maintenance breakdown

3. **Strategic case – design, estates and facilities appendices**
   3A 1:200 designs
   3B Sustainability statement
   3C Energy strategy
   3D DQI design review
   3E Schedule of derogations
   3F Infection control sign off
   3G NHS Authorising Fire Engineer Letter
   3H BREEAM pre-assessment
   3I Equipment strategy
   3J Travel plan

4. **Economic case appendices**
   4A Long list options
   4B 1:500 drawings of shortlisted options
   4C OB Forms for shortlisted options
   4D Optimism bias calculations for shortlisted options
   4E Lifecycle costs for shortlisted options
   4F Generic Economic Model (GEM)
   4G Quantified risk assessment for shortlisted options – capital
   4H Quantified risk assessment for shortlisted options – revenue
   4I Quantification of benefits

5. **Finance case appendices**
   5A Income and expenditure breakdown
   5B VAT recoverability advice
   5C Estates and facilities cost breakdown
6. **Commercial case appendices**
   6A Procurement report  
   6B PFI vs P21+ qualitative assessment  
   6C Statement of market interest  
   6D Planning strategy report  
   6E LB Enfield letter of comfort  
   6F Disposal strategy  
   6G Red book valuations  
   6H Vacant possession and legal interest management strategy

7. **Management case appendices**
   7A Benefits realisation plan  
   7B Resource profile  
   7C Programme plan  
   7D Risk register  
   7E Gateway risk potential assessment  
   7F Communications log
Abbreviations

AHP  Allied health professional  
BCF  Barnet and Chase Farm Hospitals NHS Trust  
BEH Clinical Strategy  Barnet, Enfield and Haringey clinical strategy  
BEHMHT  Barnet Enfield and Haringey Mental Health NHS Trust  
BH  Barnet hospital  
BIM  Building information modelling  
BREEAM  Building research establishment environmental assessment methodology  
CCG  Clinical commissioning group  
CFH  Chase farm hospital  
CHP  Combined heat and power  
CMG  Capital management group  
CSRR  Continuity of services risk rating  
CSSD  Centralised sterile services department  
CSU  Commissioning support unit  
DGH  District general hospital  
DH  Department of health  
DQI  Design quality indicator  
EAP  Employee assistance programme  
EBITDA  Earnings before interest, tax, depreciation and amortisation  
ENT  Ear, nose and throat  
ESCO  Energy services company  
FBC  Full business case  
FM  Facilities management  
FRR  Financial risk rating  
FTE  Full time equivalent  
FVA  Financial viability assessment  
FY  Financial year, e.g. FY15 means 2014/15  
GEM  Generic economic model  
GIFA  Gross internal floor area  
GMP  Guaranteed maximum price  
GP  General medical practitioner  
GSL  Government soft landings  
HBN  Health building note  
HCAS  Higher cost area supplement  
HDU  High dependency unit  
HRG  Healthcare related group  
HTM  Health technical memorandum  
HWB  Health and wellbeing board
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I&amp;E</td>
<td>Income and expenditure</td>
</tr>
<tr>
<td>IBP</td>
<td>Integrated business plan</td>
</tr>
<tr>
<td>IESE</td>
<td>Improvement and efficiency south east (procurement framework)</td>
</tr>
<tr>
<td>IMD</td>
<td>Index of multiple deprivation</td>
</tr>
<tr>
<td>ITU</td>
<td>Intensive treatment unit</td>
</tr>
<tr>
<td>LA</td>
<td>Local authority</td>
</tr>
<tr>
<td>LIFT</td>
<td>Local improvement finance trust</td>
</tr>
<tr>
<td>LOS</td>
<td>Length of stay</td>
</tr>
<tr>
<td>LTFM</td>
<td>Long term financial model</td>
</tr>
<tr>
<td>MFF</td>
<td>Market forces factor</td>
</tr>
<tr>
<td>MSK</td>
<td>Musculo-skeletal</td>
</tr>
<tr>
<td>NCL</td>
<td>North central London CCGs</td>
</tr>
<tr>
<td>NHSE</td>
<td>NHS England (strictly NHS Commissioning Board)</td>
</tr>
<tr>
<td>NMH</td>
<td>North Middlesex Hospital</td>
</tr>
<tr>
<td>NPC</td>
<td>Net present cost</td>
</tr>
<tr>
<td>OBC</td>
<td>Outline business case</td>
</tr>
<tr>
<td>OPAU</td>
<td>Older people’s assessment unit</td>
</tr>
<tr>
<td>OPD</td>
<td>Out-patient department</td>
</tr>
<tr>
<td>P21+</td>
<td>ProCure 21+</td>
</tr>
<tr>
<td>PACE</td>
<td>Post acute care enablement</td>
</tr>
<tr>
<td>PAU</td>
<td>Paediatric assessment unit</td>
</tr>
<tr>
<td>PBR</td>
<td>Payment by results</td>
</tr>
<tr>
<td>PDC</td>
<td>Public dividend capital</td>
</tr>
<tr>
<td>PEST</td>
<td>Political, economic, sociological and technological analysis</td>
</tr>
<tr>
<td>PFI</td>
<td>Private finance initiative</td>
</tr>
<tr>
<td>PITU</td>
<td>Planned investigations and treatment unit</td>
</tr>
<tr>
<td>PMO</td>
<td>Project management office</td>
</tr>
<tr>
<td>POCU</td>
<td>Post operative care unit</td>
</tr>
<tr>
<td>PSCM</td>
<td>Principal supply chain member</td>
</tr>
<tr>
<td>PSCP</td>
<td>Principal supply chain partner</td>
</tr>
<tr>
<td>QIPP</td>
<td>Quality, innovation, productivity and prevention</td>
</tr>
<tr>
<td>RFH</td>
<td>Royal free hospital</td>
</tr>
<tr>
<td>RFL</td>
<td>Royal Free London NHS Foundation Trust</td>
</tr>
<tr>
<td>RNOH</td>
<td>Royal national orthopaedic hospital</td>
</tr>
<tr>
<td>RTA</td>
<td>Road traffic accident</td>
</tr>
<tr>
<td>SLR</td>
<td>Service line reporting</td>
</tr>
<tr>
<td>SOC</td>
<td>Strategic outline case</td>
</tr>
<tr>
<td>TDA</td>
<td>NHS Trust Development Authority</td>
</tr>
<tr>
<td>TREAT</td>
<td>Triage rapid elderly assessment team</td>
</tr>
<tr>
<td>UCC</td>
<td>Urgent care centre</td>
</tr>
</tbody>
</table>
1. Executive summary

1.1 Introduction

This outline business case (OBC) sets out the case for investment in Chase Farm Hospital (CFH). Structured using the NHS five case model, it considers the proposals from a strategic, economic, commercial, financial and management perspective.

The overarching programme objectives for the Chase Farm Hospital redevelopment are to:

- ensure that the services provided are consistent with the BEH clinical strategy providing access to safe and sustainable elective care services that achieve required standards at Chase Farm Hospital.
- ensure that new and refurbished facilities are designed to commissioners’ and the trust’s models of care, improve patient experience, support best practice and to guidelines set out in the relevant Health Building Notes and evidenced based design principles apart from where otherwise derogated.
- develop the site in a way that is affordable to commissioners, to funders and to the trust on both a capital and revenue basis, as quickly as possible.
- enable Chase Farm Hospital, and the trust as a whole to achieve high levels of productivity
- achieve Estate Code A/B for the campus.

1.2 Strategic case

1.2.1 Context and basis of brief

The proposed redevelopment of CFH supports existing national, local and trust strategy.

The local health need and improving the experience for patients has been core to informing the brief. The population of Enfield is projected to increase by 7% over the next 20 years, with a 42% increase in people aged 65 and over. Therefore there will be more people in the local area (affecting demand for all services), especially more older people (affecting demand for rehabilitation and dementia services). It is predicted that 20% of the elderly population will be living with dementia. Enfield has a high prevalence of lifestyle-related conditions such as obesity, coronary heart disease (CHD) and diabetes, and the incidence and prevalence of certain diseases (particular cancers, ischaemic heart disease, COPD, stroke and rheumatoid arthritis) are forecast to change in Enfield over the next 10-20 years. It is likely that demand for services such as diagnostics, and especially cancer treatment and stroke rehabilitation will increase significantly, and more of those patients will be older. Due to increased cancer incidence and improving treatments, prevalence will increase significantly so that many more people will be living with cancer.

The trust envisages CFH to be the pre-cursor of transformational change through the delivery of new symptom led patient pathways. By creating a new hospital, the trust plans to manage patients with the above conditions more effectively through a clinical model which has the following overarching principles:
• to implement symptom based pathway service re-design to the benefit of the patient
• to provide an integrated health campus which promotes seamless management of elective surgery and non acute patient care
• to increase admission avoidance and decrease lengths of stay by moving from an inpatient to a day case / ambulatory model where appropriate
• to provide as much care as possible outside a hospital setting where appropriate

The redevelopment is set in the context of the acquisition by Royal Free London NHS Foundation Trust (RFL) of Barnet and Chase Farm Hospitals NHS Trust (BCF) that was completed on 1 July 2014, and the implementation of the Barnet Enfield and Haringey (BEH) clinical strategy in late 2013.

Investment at CFH is long overdue and a redevelopment to provide modern, fit for purpose facilities will benefit the local population of Enfield and neighbouring boroughs by ensuring the long term future of CFH. The following benefits are envisaged from the new facility:

• facilitate high quality care which supports the achievement of clinical and non clinical standards;
• increase sustainability to service delivery on site, offering greater reassurance to the community of Enfield and North London about the safe future of Chase Farm site and the importance the NHS strategically places upon it;
• offer improvements to the local community;
• improve patient experience of trust services;
• help the trust to achieve sustainable financial viability after the acquisition of BCF;
• eliminate backlog maintenance;
• achieve land sale disposal receipts for the benefit of service improvement;
• provide flexibility to enable other services to be developed on the site in future;
• improve staff morale, recruitment and retention;
• increase efficiency and productivity; and
• improve the quality of the estate, ensuring fit for purpose accommodation.

The role of the hospital was defined at a high level in the BEH strategy, and confirmed after public consultation, and the core of the brief has required little new debate. The logic behind the brief comprised the following:

• the role of Chase Farm Hospital in the BEH strategy;
• measures to deliver that activity content more efficiently;
• some transfers of elective surgery and endoscopy from Barnet Hospital so as to enable more efficient emergency services at that hospital, and more efficient elective services at Chase Farm Hospital;
• some limited moves of services closer to patients’ homes;
• consistency with the new clinical pathways agreed with commissioners; and
• growth factors for demographic structural change and access.
The activity projections, set out below, form the basic brief for the new hospital. Most of the net increases over the current year’s projection are due to transfers, the rest being a response to demographic change.

Table 1.1 Chase Farm Hospital activity projections summary

<table>
<thead>
<tr>
<th>activity</th>
<th>currency</th>
<th>FY15</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>urgent care</td>
<td>attendance</td>
<td>39,500</td>
<td>42,756</td>
</tr>
<tr>
<td>day cases</td>
<td>spell</td>
<td>13,771</td>
<td>22,786</td>
</tr>
<tr>
<td>elective</td>
<td>spell</td>
<td>5,379</td>
<td>7,193</td>
</tr>
<tr>
<td>non-elective</td>
<td>spell</td>
<td>561</td>
<td>0</td>
</tr>
<tr>
<td>out-patients</td>
<td>attendance/ procedure</td>
<td>191,201</td>
<td>201,433</td>
</tr>
</tbody>
</table>

Clinical engagement has been essential to the agreement of the activity, service models and development of operational policies; 51 clinical meetings involving 86 clinicians have taken place so far. In addition an off-site full day workshop to harness ideas from all clinical groups was held with attendance of 137 participants. Service specifications have been developed which form the basis of the schedule of accommodation and inform design. A letter is attached at appendix 2A from senior clinical staff giving support to the redevelopment.

1.2.2 The brief

The following functional content has been agreed for the new hospital. There has been a focus on generic space where possible, flexible spaces and high utilisation in the development of the schedule of accommodation.

- 48 in-patient elective surgical beds
- 8 theatres
- 16 theatre recovery spaces
- 4 high dependency unit (HDU) beds
- 15 day case unit
- 44 in-patient rehabilitation beds
- 10 space planned investigative treatment unit (PITU)
- 10 space haematology/oncology day unit
- urgent care centre (UCC) – 7 consulting rooms, 1 minor ops room and 1 plaster room
- GP out of hours service – 1 consulting room
- older people’s assessment unit (OPAU) – 9 consulting rooms, 1 treatment room,
- paediatric assessment unit (PAU) – 3 PAU consulting rooms,
- paediatric out-patients – 7 consulting rooms, 1 treatment room,
- adult out-patients – 18 generic consulting rooms, plus breast clinic, physiological measurement, orthodontic, ENT, audio and maxillo-facial surgery, ophthalmology and gynaecology suite.
- 6 virtual consult booths for telemedicine
- 6 phlebotomy bays
- anti-coagulation service space
- physiotherapy space on the wards and in OPAU
- 4 endoscopy rooms (plus an additional 2 shell spaces for future growth)
- diagnostics – 4 x-ray rooms, 6 ultrasound, 1 MRI plus space for 1 mobile MRI, 1 CT scanner plus fluoroscopy function within x ray.
- pharmacy
- non clinical space: café, restaurant, retail unit, administration hot desking, teaching space, FM allowance and stores.

As well as providing new hospital facilities and the disposal of surplus land, the OBC encompasses the provision of an energy and car park solution:

- **Energy solution:**

  The trust is looking to provide a combined heat and power (CHP) energy centre which would service the hospital as well as the school and some of the new housing on the disposal site. The intention is to have the energy centre designed, built and operated through a tax efficient and innovative third party managed service. An Energy Service Company (ESCO) is a commercial structure providing a broad range of energy solutions. The solution is dependent on work which will continue throughout the FBC development process to ensure this solution is economically viable.

  Planning approval will also be dependent on the London Borough of Enfield being satisfied with the energy solution.

- **Car park extension:**

  Car parking spaces will be lost as a result of land sales and therefore some additional spaces need to be provided on the retained land to meet expected demand and satisfy planning requirements. This is being proposed as an extension to the existing multi-storey car park.

  The trust is looking at the design, build, finance and operation of the existing and extended car park through a third party operator.

**SOC to OBC reconciliation**

More detailed work undertaken during the development of the OBC has led to an increase in the size of building required when compared with the estimate set out in the SOC. These changes are documented in the main body of the OBC (section 2.6.3) and are mainly a result of having undertaken further detailed work with the input of clinical requirements. The activity assumptions have not materially changed between SOC and OBC.

In addition, the energy solution and car park were not previously identified as part of the scope of the redevelopment.
1.2.3 Design proposals

The design has been developed based on an agreed schedule of accommodation totalling approximately 25,000m². There has been clinical engagement in design development, and clinical leads have provided clinical sign off. The infection control team and the trust’s NHS Authorising Fire Engineer have reviewed and confirmed compliance.

An important element of the design is ensuring flexibility and providing sufficient space for future expansion, whilst providing a hospital which is neither too large nor too small, and is used efficiently. A number of factors have been considered in determining how the building may need to flex or expand in the future, which include demographic changes, epidemiological changes, maturity of the new pathway models and NHS structural change.

DH consumerism issues have been addressed in the design. A design quality indicator (DQI) review has been undertaken to ensure robust challenge is in place.

1.3 Economic case

In accordance with the capital investment manual and requirements of HM Treasury’s ‘Green Book’, an options appraisal has been carried out to consider a range of options to deliver the scope set out in the strategic case.

1.3.1 Non financial options appraisal

In order to qualitatively assess the options, benefit criteria were developed to describe the key deliverables the preferred options should achieve. These were based on the investment objectives and critical success factors:

1. programme for delivery
2. implementation and deliverability
3. effective use of the estate and flexibility
4. productivity and efficiencies
5. clinical effectiveness and quality of care
6. improving the quality of the estate and ensuring fit for purpose accommodation
7. supports trust’s strategy

These were used to assess a long list of options, which identified four options for further appraisal;

- **Option 1 Do Minimum** – undertake all backlog maintenance across the site. Included as a baseline
- **Option 3 New build, refurbish Highlands and maternity** – accommodate wards, theatres and endoscopy in new build, and all other services in refurbished existing buildings. Provides a car park extension and energy centre. Enables sale of south east portion of site.
- **Option 4 New build, refurbish Highlands** – accommodate out-patients and MSK in Highlands, and all other services in a new build. Provides a car park extension and energy centre. Enables sale of south east portion of site.
- **Option 8 New build** – new build to accommodate all services. Provides a car park extension and energy centre. Retains Highlands as an empty building and its’ future would be subject to a separate stand-alone business case. Enables sale of south east portion of site.

A non financial options appraisal was undertaken to weight the benefit criteria for their relative importance, and appraise each shortlisted option against them. Option 8 achieved the highest scores for qualitative benefits, followed by option 4 which scored second highest. The results are shown in table 1.3.

### 1.3.2 Financial option appraisal

The financial appraisal considers the costs of each option over a 60 year period. Capital, lifecycle, estates running costs, pay and non pay costs have been estimated and inputted into the generic economic model (GEM) to provide a net present cost (NPC) for each option, as shown in the table below.

**Table 1.2 Summary of cost inputs to financial option appraisal**

(*xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx*)

### 1.3.3 Risk appraisal

The options were also appraised for the level of capital and revenue risk attributable to each option. This process concluded that options with higher proportions of refurbishment have more capital risk associated with them. A risk allowance has been included in the capital costs above.

### 1.3.4 Benefits quantification
The options were appraised to assess their relative benefits to the public, local community and the wider NHS. This demonstrated that benefits would be achieved by the redevelopment, but that there was no significant difference between options 3, 4 and 8.

### 1.3.5 Cost benefit analysis

In order to determine which option represents the best value for money, the financial and non-financial appraisals have been combined to generate a net present cost per unit of value added for each option. This is shown in the table below:

**Table 1.3 Cost benefit analysis results.**

<table>
<thead>
<tr>
<th>Option</th>
<th>Financial option appraisal: risk adjusted net present cost (NPC) over 60 year period £m</th>
<th>Non financial option appraisal: number of ‘benefit points’</th>
<th>Cost per benefit point £m (lowest indicates greatest value for money)</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>option 1 - ‘do minimum’ – backlog maintenance only</td>
<td></td>
<td>319</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>option 3 – refurb maternity building, refurb Highlands + new build</td>
<td></td>
<td>726</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>option 4 - refurb Highlands + new build</td>
<td></td>
<td>867.5</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>option 8 – all new build</td>
<td></td>
<td>954</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Option 8 (all new build) has the lowest cost per benefit point over the 60 year life of the asset and is therefore the option that delivers the greatest value for money and is the ‘preferred option’.

A sensitivity analysis was undertaken by switching points to test how much either a benefit score or NPC needed to vary in order to switch the ranking order. This showed that option 4 (the option ranked second) would need a 12% reduction in NPC or a 10% increase in benefit score to become the preferred option. Having undertaken some scenario tests, these were considered to be unrealistic changes in either cost or benefit, and therefore the preferred option was confirmed.

### 1.4 Finance case

The financial case builds upon the strategic direction set out in the strategic case and the economic options appraisal.

The table below summarises the forecast financial effects of the preferred option on the Chase Farm I&E.

**Table 1.4 Income and expenditure summary**
As a result of the implementation of the BEH strategy in December 2013, Chase Farm Hospital is forecast to make a normalised deficit of £16m in FY15 (recurrent £20m by FY18).

The financial impact of the new hospital build and transfer of elective activity from Barnet, is to both increase the efficiency of the clinical services provided at Chase Farm, and to decrease the running cost of the estate. Total cost savings (pay and non pay) of £xxxx are forecast in FY19 – the first full year of the new build, leading to a planned improvement in the recurrent I&E position. The FY19 planned surplus is £xxxx, which is after non recurrent transition funding of £xxxx. The normalised position is therefore a deficit of £xxxx which is in line with the deficit forecast in the transaction LTFTM. Chase Farm is forecast to generate a recurrent surplus of £xxxx from FY20.

The capital cost of the preferred option is £xxxx (£xxxx for the main building, £xxxx for additional car parking, £xxxx for an energy centre, plus optimism bias and contingency as required under the OBC process due to the stage of design).

The table below sets out how this will be funded. The £xxxx is as per the original transaction agreement, with a requirement for additional PDC of £xxxx to be agreed.

<table>
<thead>
<tr>
<th>Table 1.5 Financing of capital investment</th>
</tr>
</thead>
</table>

During the process to FBC, this capital figure may be revised downwards to £xxxx if the car park and energy centre are funded in a different way, and as cost estimates are refined. This would reduce the PDC requirement to £xxxx. The funding solution for the energy centre and car park will consider both the capital and revenue implications to ensure the I&E position is affordable.

1.5 Commercial case

1.5.1 Procurement decision
A procurement appraisal was undertaken which identified several procurement route options. ProCure 21+ (P21+), a framework provided by the Department of Health for the procurement, development and refurbishment of NHS facilities, was selected. Advantages include:

- the process provides a guaranteed maximum price (GMP), providing considerable cost certainty
- there are better design decisions due to integrated approach, collaborative working and experience and expertise of Principal Supply Chain Partners (PSCPs)
- embedded flexibility of approach
- defect free delivery
- risks are apportioned by agreement to the party most appropriate to carry the financial consequences
- improved buildability and innovation in design due to Design-and-Build arrangement
- auditability due to open book accounting with clear demonstration of actual costs and full access to accounting systems and payroll as required
- PSCP fees – detailed activity schedules and benchmarked against previous projects
- involvement of key subcontractors
- implementation and transparency of process and regular reporting to enable informed financial decisions.

Following the standard P21+ tender process, a PSCP has been selected. The trust will formally appoint this PSCP in February 2015 to develop detailed designs and a GMP.

1.5.2 FM services

Hard and soft FM at Chase Farm Hospital are currently fully outsourced. The new build operating model will adopt the same model, with all hard and soft FM services being outsourced to fully integrated FM service providers.

1.5.3 Equipment

An equipment strategy has been developed by the trust’s equipping advisors. Its objective is to ensure that the trust has fully equipped hospital facilities, keeping pace with technological developments, whilst also securing best value for money once the development is completed. The capital cost in this OBC assumes that 50% of existing equipment will transfer, based on lifecycle replacements happening between now and 2018.

The equipment strategy will continue to be developed exploring the procurement options available, accommodating existing equipment and analysing forecasts of future activity taking account of clinical developments and technologies.

1.5.4 Planning consent

An outline planning application was submitted on 21 November 2014 for the new hospital, up to 500 residential units and a three form entry primary school (Ref: 14/04574/OUT). The application has been submitted on a ‘parameters’ basis, specifying the maximum floorspace and scale of the new buildings, and a master plan showing an indicative final layout. This allows flexibility in the delivery
of the final detailed proposals. The suite of planning documents submitted for planning purposes is available to view online at http://planningandbuildingcontrol.enfield.gov.uk/online-applications.

The current and future proposed site use is shown below.

Figure 1.1 Current and proposed future site use

![Figure 1.1 Current and proposed future site use](image)

LB Enfield anticipates that the application will be determined at a Planning Committee scheduled for 12 March 2015.

The trust will then be required to submit ‘reserved matters’ applications detailing the layout, scale and appearance of the new hospital. It will also need to provide the Local Planning Authority with further information regarding any conditions imposed, as well as discharging relevant section 106 obligations.

1.5.5 Disposal strategy

The trust will dispose of its interest in land parcels earmarked for housing development and the new school. The school site and part of the housing development site will be sold in 2015/16. The remainder will be upon completion of the new hospital in 2018/19.

The disposal strategy has been developed in accordance with Health Building Note 00-08 (October 2014) to achieve best value from the disposal of sites surplus to trust healthcare requirements and to deliver maximum receipts to fund, in part, the redevelopment of Chase Farm hospital.

1.6 Management case

1.6.1 Benefits realisation

The benefits realisation plan provides details of how each benefit will be measured. These have been identified through a benefits mapping exercise involving key clinical and non clinical staff. Each benefit baseline has been measured and a responsible owner identified for monitoring progress.
1.6.2 Programme governance

The programme governance structure and reporting strategy is set out in the figure below.

*Figure 1.2 Programme governance and reporting structure*
The governance structure sets out lines of accountability and reporting for the delivery of the programme.

The programme is fully resourced with appropriate external consultants providing advisory and technical services to the trust.

### 1.6.3 Programme milestones

Key milestone dates of the programme are shown in the table below.

<table>
<thead>
<tr>
<th>key milestone</th>
<th>programmed date</th>
</tr>
</thead>
<tbody>
<tr>
<td>outline planning permission submitted</td>
<td>November 2014</td>
</tr>
<tr>
<td>OBC trust board approval</td>
<td>January 2015</td>
</tr>
<tr>
<td>decant/enabling works start on site</td>
<td>Spring 2015</td>
</tr>
<tr>
<td>outline planning approval achieved</td>
<td>March 2015</td>
</tr>
<tr>
<td>reserved matters planning approval submitted</td>
<td>May 2015</td>
</tr>
<tr>
<td>detailed design complete</td>
<td>July 2015</td>
</tr>
<tr>
<td>reserved matters planning approval achieved</td>
<td>August 2015</td>
</tr>
<tr>
<td>trust board approval of FBC, to include a ‘not to be exceeded GMP’</td>
<td>September 2015</td>
</tr>
<tr>
<td>final GMP to be agreed</td>
<td>November/December 2015</td>
</tr>
<tr>
<td>main development start on site</td>
<td>January 2016</td>
</tr>
<tr>
<td>new redevelopment operational</td>
<td>Spring 2018</td>
</tr>
<tr>
<td>post project evaluation</td>
<td>Spring 2018 – Spring 2019</td>
</tr>
</tbody>
</table>

### 1.6.4 Risk management

The risk management approach comprises the following.

**Risk management strategy:** A full risk management strategy has been developed, and a supporting risk register where risks have been logged and then scored for their probability of occurring and their likely impact in terms of cost and time, which has then generated a risk rating. All risks have a responsible owner and mitigating actions identified. The risks are reviewed regularly to ensure that
all reasonably practicable measures have been taken to mitigate them. The top five risks currently on the risk register are shown below.

**Table 1.7 Top five risks**

<table>
<thead>
<tr>
<th>Risk Description - Causes - Consequences</th>
<th>Risk Owner</th>
<th>Mitigating Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk that contingency is needed to cover trust change during construction.</td>
<td>Andrew Panniker</td>
<td>Proximity of risk is c 12 months away however important in the FBC stage for sign off to be fully agreed. Minimise unnecessary change during the construction period by ensuring that all design is signed off by all relevant stakeholders. Include contingency allowance in capital budget.</td>
</tr>
<tr>
<td>Risk that the capital requirement to fulfil the brief is not affordable.</td>
<td>Gareth Cruddace</td>
<td>I&amp;E model assuming PDC available has been modelled between OBC and FBC - challenge PSCP to reduce build cost and undertake review of car park revenue model and ESCO for energy centre.</td>
</tr>
<tr>
<td>Risk that the business case for the redevelopment is weakened due to quality and efficiency measures taken before 2018 to improve the disposition and efficiency of services and some environmental improvements at the site</td>
<td>Caroline Clarke</td>
<td>In the business case identify and quantify the specific quality, health, community, cost and productivity benefits that will result from the redevelopment that cannot be achieved without it. “Community” benefits include local employment, renewed faith in the local hospital service for local people and GPs, lower carbon emissions, and, subject to discussions, the opportunity for a new primary school.</td>
</tr>
<tr>
<td>I&amp;E for the activity brief, workforce model and design solution may not be affordable</td>
<td>Caroline Clarke</td>
<td>Initial I&amp;E has been challenged. Reduce costs further where possible. Undertake more detailed financial analysis. Further engagement with clinicians to develop and test detailed staffing model. Incorporate work on pathway redesign. Ensure the capital solution for the energy centre and the car park are affordable from a revenue perspective.</td>
</tr>
<tr>
<td>Vacant possession not obtainable on disposal opportunity land parcels, particularly parcel A which contains the existing residential element</td>
<td>Andrew Panniker</td>
<td>Strategy in place with strong communications and engagement. Appropriate notices to be served within the required timescales. Alternative accommodation for displaced clinical and non-clinical services to be agreed to ensure costs and timescales are fully understood.</td>
</tr>
</tbody>
</table>

**Quantitative risk assessment:** Depending on the nature of the risk, a capital or revenue contingency sum has been estimated for risks and then applied as appropriate as either a capital contingency in the OB forms or in the revenue cash flows in the GEM.

**OGC Gateway Risk Potential Assessment:** The impact and risks associated with the project were assessed in June 2014 in accordance with the Health Gateway Risk Potential Assessment (RPA) for projects. The assessment determined the scheme was high risk, due to the high level of public interest, the high number of expected benefits and because it is a major contributor to the delivery of key strategic targets of the trust.
Accordingly, an external review process has been employed on the programme in the form of a Health Gateway Review 1 (Business justification) which was carried out from 29-31 July 2014. The Delivery Confidence Assessment given as a result of that review was ‘Amber Red’ which is defined as “Successful delivery of the project/programme is in doubt with major risks or issues apparent in a number of key areas. Urgent action is needed to ensure these are addressed.” The review team gave four recommendations, all of which have been addressed by the programme team and actions completed.

1.6.5 Workforce plans

Robust workforce plans, owned by the services themselves, are in place and will continue to be refined and developed over time, to ensure a successful transition.

1.6.6 Communications and stakeholder engagement

A detailed action plan of timed stakeholder communications and engagement has been developed to run alongside the programme plan and in consultation with the trust’s planning advisors.

Stakeholder engagement, both internal and external, has been a key part of developing the proposals contained within the OBC. Commissioner engagement has been through the chief officer of Enfield CCG who acts as the representative for the other two lead CCGs and is a member of the CFH redevelopment programme board.

1.7 Recommendation

The board is recommended to approve this OBC for continuation to full business case (FBC) stage and for submission to DH and HM Treasury for their approval.

The estimated fee spend between OBC and FBC that is requested to be committed is £xxx. The majority of this is in relation to the P21+ partner fee which incorporates detailed design and surveys. This amount is currently an estimate and the budget will need to be reviewed once these have been received and confirmed.

More information on fee expenditure is provided within section 7.3.
2. Strategic case

2.1 Introduction

This case explains how the proposed redevelopment of Chase Farm Hospital (CFH) supports or is consistent with existing national, local and trust strategy. In particular, the proposal to redevelop CFH is set in the context of the acquisition by Royal Free London NHS Foundation Trust (RFL) of Barnet & Chase Farm Hospitals NHS Trust (BCF) that was completed on 1 July 2014.

The strategic case also sets out the overwhelming case for change. Investment at CFH is long overdue and a redevelopment to provide modern, fit for purpose facilities will benefit the local population of Enfield and neighbouring boroughs by ensuring the long term future of CFH.

Having established the requirement for investment, the case then describes the basis of the future activity projections and service models that underpin the size and scale of the proposed new CFH.

The approach to the development of the proposal contained in this OBC centre around the needs of patients and therefore clinical input has been essential. Appendix 2A, a letter from senior trust clinicians, provides evidence of the clinical support.

2.2 The strategic context

2.2.1 National strategy

The most recent national planning guidance, *Everyone Counts: planning for patients 2014/15 to 2018/19 (December 2013)*, set out the need for bold and ambitious five year strategic plans from NHS commissioners. It described an approach to deliver transformational change with the first critical steps over the next two years, to achieve the continued ambition to secure sustainable high quality care for all, now and for future generations. It stated that delivering care in a way which is integrated around the individual patient is essential to a new way of working which truly puts the patient at the heart of what we do. It called for early focus on the integration of care around the most frail, often elderly patients, but noted that it would be important for all those who receive complex care.

Its content is summarised in the figure below.
In October 2014 the *Five Year Forward View* was published by NHS England and its partners. It reported that, unless determined action was taken, the gap between need and available resources would be £30bn in 2020/21. The document summarised three scenarios about the degree to which that gap could be reduced. The forward view highlights several approaches which are incorporated in the planning of the CFH redevelopment. These are:

- patient needs are changing and new treatment options are emerging;
- challenges in mental health, cancer and support for frail elderly patients;
- new partnerships are envisaged with local communities, local authorities and employers;
- the need for rapid upgrade in prevention and public health;
- patients will need to gain more control of their care;
- barriers removed to care provided by family doctors, hospitals, physical and mental health and health and social care;
- in future more services delivered locally but others in specialist centres;
- more support for patients with multiple health conditions;
- future radically different care delivery options including integrated hospital and primary care providers.

The new Chase Farm hospital is being designed with flexibility in the brief, so that, as needs change and unforeseen innovations develop, it will be readily adaptable, so reducing future costs.
2.2.2 Local strategy

Barnet Enfield and Haringey clinical strategy

In September 2011, following at least ten years of scrutiny, support for the BEH clinical strategy was confirmed by the secretary of state for health. This strategy had the following objectives:

- to develop local health services to enable the transfer of appropriate services from an acute to a community and primary care setting;
- to reorganise the provision of acute services across the Barnet, Enfield and Haringey health communities (affecting southern Hertfordshire residents too);
- to ensure the continued clinical sustainability and safety of the service configuration after taking into account the implications of the next stage of the European Working Time Directive (EWTD) and the Modernising Medical Careers policy; and
- to address the underlying financial deficit of the health economy and BCF in particular.

The strategy set out the improvement in primary and community care across the region, the centralisation of A&E and maternity services at BH and North Middlesex Hospital (NMH), and the development of CFH as an elective centre, ambulatory and urgent care facility. The implementation of the BEH clinical strategy saw the following service changes:

- separation of planned and emergency services, with BH and NMH providing major emergency services, and CFH becoming the centre for planned care for non life threatening conditions and day surgery;
- expansion of planned care at CFH to incorporate planned in-patient surgery moving from BH;
- provision of an urgent care service at both Barnet and Chase Farm Hospitals;
- creation of consultant led paediatrics and an older person’s assessment unit at CFH;
- provision of in-patient services for women and children and obstetrician led maternity services at BH and NMH;
- provision of intermediate care beds at CFH for admissions avoidance and to allow some patients to move closer to home after their acute in-patient phase; and
- strengthening and improvement of community and primary care.

These service changes took place in November and December 2013. The trust is committed to continue delivering the services as set out in that strategy in the long term. These are shown below.

<table>
<thead>
<tr>
<th>Chase Farm Hospital</th>
<th>Barnet Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned care</td>
<td>Emergency, maternity and paediatrics</td>
</tr>
<tr>
<td>Urgent care centre</td>
<td>Accident and emergency</td>
</tr>
<tr>
<td>Paediatric assessment unit</td>
<td>Urgent care centre</td>
</tr>
<tr>
<td>Older person’s assessment unit</td>
<td>Emergency surgery</td>
</tr>
<tr>
<td>Elective surgery</td>
<td>Day surgery</td>
</tr>
<tr>
<td>Day surgery</td>
<td>Maternity (including midwife led unit)</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>Paediatrics</td>
</tr>
<tr>
<td>Out-patients</td>
<td>Out-patients</td>
</tr>
<tr>
<td>High dependency unit</td>
<td>ITU and HDU</td>
</tr>
</tbody>
</table>

Table 2.1 Disposition of services following BEH clinical strategy implementation
BCF produced an OBC and FBC for the capital investment to support these changes at the BH and CFH sites. The FBC was approved in 2012 and comprised the expansion of maternity and emergency facilities at BH, and investment in the rehabilitation wards and urgent care centre at CFH, as well as the refurbishment of the maternity block for out-patients. These works were undertaken, but not the refurbishment of the maternity block at CFH because of RFL’s due diligence prior to the acquisition showed wider options for CFHs future needed to be considered.

The plans at CFH contained within the FBC did not address all the shortfalls of the existing estate as their objective was solely to support the BEH clinical strategy.

Commissioners’ plans

With few exceptions the services at Chase Farm Hospital are commissioned by CCGs. Secondary dental services (meaning in the brief for this business case the specialties of oral and maxillo-facial surgery and orthodontics) and some chemotherapy at the hospital are currently commissioned by NHS England. This section therefore concentrates on CCGs’ plans.

The main CCG users of the hospital’s services are, and will remain, Enfield, East and North Hertfordshire, and Barnet. Smaller numbers of patients come from Herts Valleys CCG and a few from Haringey CCG. Since the implementation of the BEH clinical strategy around 57% of all patients have been from Enfield. The five CCGs have together accounted for 96% of the admitted patients, 98% of the out-patients and 93% of the urgent care centre attenders.

The North Central London CCGs’ five year plans have not yet been finalised or published, but two main factors are common to those plans and to the trust’s. The first is the financial outlook, now as set out in the scenarios of the “Five year forward view”, as qualified by the local CCGs’ strongly contrasting distances from target (see table 2.2 below); and the other is the common strategy of pathway redesign, now starting to be trialled with the largest CCG users of RFL’s secondary services.

<table>
<thead>
<tr>
<th>commissioner</th>
<th>baseline 2013/14</th>
<th>2015/16 allocation</th>
<th>2015/16 allocation less net better care fund transfer</th>
<th>net growth 2013/14 to 2015/16¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnet CCG</td>
<td>389.8</td>
<td>414.8</td>
<td>399.9</td>
<td>2.6%</td>
</tr>
<tr>
<td>Enfield CCG</td>
<td>322.3</td>
<td>349.7</td>
<td>337.2</td>
<td>4.6%</td>
</tr>
<tr>
<td>East and North Herts CCG</td>
<td>587.2</td>
<td>622.4</td>
<td>600.0</td>
<td>2.2%</td>
</tr>
<tr>
<td>Haringey CCG</td>
<td>298.6</td>
<td>312.0</td>
<td>300.8</td>
<td>0.7%</td>
</tr>
<tr>
<td>Herts Valleys CCG</td>
<td>626.1</td>
<td>656.2</td>
<td>632.7</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Source: NHS England, CCG funding allocations, 18 December 2013
Note¹ This growth calculation is (2015/16 allocation minus the net contribution to the better care fund) / (2013/14 baseline), expressed as a percentage.
Although their numbers and their pace of development vary, local CCGs’ commissioning plans have very similar objectives and priorities, and are based on largely the same thinking and approach. Every CCG is investing in primary care and community services, and all their plans are well linked into joint strategic needs assessments and the priorities of the health and wellbeing boards.

Enfield CCG, Chase Farm Hospital’s largest commissioner, expresses its quality strategy thus:

- we will continue to work with people in aiming to improve their health and well-being by focusing on preventative services, reducing health inequalities, and enabling the population to take responsibility for their own health;
- we will facilitate integration between health and social care services;
- we will have an Enfield strategy that is clinically led, draws on research evidence, and uses innovative, radical solutions to deliver the best possible care to patients and their carers;
- we will focus on education and development support for clinicians to improve care and ensure that high quality services are delivered.

Commissioners’ outcomes and affordability criteria will be met by coherent pathways with supporting protocols for symptom defined patient groups in all the common specialities, agreed between commissioners and providers across the system. These pathways will be implemented through the application of highly standardised practice across primary and secondary care (see 2.3.7 for more detail).

CCGs and NHS England have published their commissioning intentions for 2015/16. Enfield CCG’s intentions regarding community services, musculoskeletal services and some other community sited services are the subject of detailed discussion with the trust, the outcomes of which over the years ahead will affect what exactly is provided at or from the site; but Enfield CCG’s signature of the letter of support for this business case confirms that no material change in commitment is envisaged.

**London Borough of Enfield (LBE)**

*Enfield Joint Health and Wellbeing Strategy 2014-2019*, has a vision which is underpinned by five supporting principles:

**Prevention and early intervention** – The lifestyle choices that people make about diet, exercise, alcohol consumption, smoking and drug use can affect their health and wellbeing. Early diagnosis, positive interventions and good quality service delivery will lead to the people of Enfield enjoying better health and wellbeing into the future.

**Integration** – Service users should receive a seamless service, regardless of the source of the support. The Health and Wellbeing Board (HWB) will encourage integration across all relevant health and social services, schools’ and children’s services, and the voluntary and community sector where appropriate. Integration of services is a key issue for older people.

**Equality and diversity** – Enfield HWB initiatives will address equality and diversity, by ensuring services are accessible, high quality and tailored appropriately to the different groups in Enfield, particularly in the light of the east-west divide across the borough in health and wellbeing outcomes.
Addressing health inequalities – Aim of minimising variation in health and life expectancy between east and the west of the borough, while also improving the health and wellbeing of all Enfield residents.

Ensuring good quality services – All services will be designed around the patient or user, will be safe, and will be caring and compassionate.

LBE has consistently supported the continued provision of services at CFH. Our aim will be to complement the strategy of LBE and the HWB by contributing to the achievement of the principles above.

2.2.3 Local population considerations

Demographic changes

LB Enfield is now the fourth most populous borough in London. The catchment population of Chase Farm Hospital will continue to increase; the following population changes are projected in Enfield over the next 20 years:

<table>
<thead>
<tr>
<th>Table 2.3 Population projections LB Enfield</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>residents LB Enfield</td>
</tr>
<tr>
<td>2012</td>
<td>317 000</td>
</tr>
<tr>
<td>2022</td>
<td>332 000</td>
</tr>
<tr>
<td>2032</td>
<td>340 000</td>
</tr>
</tbody>
</table>

The population of Enfield is projected to increase by 7% over the next 20 years, with a 42% increase in people aged 65 and over. Therefore there will be more people in the local area (affecting demand for all services), especially more older people (affecting demand for rehabilitation, dementia services and OPAU). It is predicted that 20% of the elderly population will be living with dementia. Diversity in the Enfield population is increasing fast, and an increase in ethnic mix of older age groups (possibly affecting system familiarity, cultural issues and language) is likely.

Joint Strategic Needs Assessment for Enfield

The Enfield Joint Strategic Needs Assessment (JSNA) identifies significant health deprivation in Enfield. Although life expectancy is better than the England average across the borough, differs by 6-7 years (for women and men respectively) between people living in the most and least deprived areas.

Enfield has a high prevalence of lifestyle-related conditions. Obesity presents a significant concern - Enfield has the 3rd highest prevalence of obese people in London (27%), with 26.5% of 4 and 5 year olds and 38.5% of 10 and 11 year olds overweight or obese in 2009/10. In addition, an estimated

---

2 LB Enfield, Joint strategic needs assessment, 2013
8,000 people registered with an Enfield GP had coronary heart disease (CHD) in 2008/09, placing it third highest in London for the condition, and a further 7,500 residents are estimated to have undiagnosed CHD. Similarly, 12,600 people registered with a GP had diabetes in 2008/09 (predicted to rise to 17,700 by 2015) and a further 3000 are thought to have undiagnosed diabetes – amongst the highest rates in London. By creating a new hospital, the trust plans to manage patients with these conditions more effectively.

Epidemiological changes

The incidence and prevalence of certain diseases (particular cancers, ischaemic heart disease, COPD, stroke, dementia and rheumatoid arthritis) are forecast to change in Enfield over the next 10-20 years. It is likely that demand for services such as diagnostics, and especially cancer treatment and stroke rehabilitation will increase significantly, and more of those patients will be older. Due to increased cancer incidence and improving treatments, prevalence will increase significantly so that many more people will be living with cancer.

2.2.4 Trust mechanisms for monitoring strategic direction and demographics

The trust maintains a number of related mechanisms to help ensure that its strategic business planning is realistic. Amongst these mechanisms are:

- a political, economic, sociological and technological (PEST) analysis of the developing operating environment (updated annually);
- the board assurance framework assessing strategic risks and recording what more needs to be done to abate them (updated quarterly); and
- quantified planning assumptions about resources, demographic change and service needs.

All the PEST factors (the current version contains 18) help to inform the expected future operating context for the Chase Farm Hospital of 2019. PEST factors of special importance to this business case are:

- quality expectations will rise, and quality and safety policy will continue to develop;
- £30b savings need to be achieved by the English NHS by 2020/21; further austerity is assumed in the next spending review 2016/19;
- inflation and cost pressures, especially related to staffing;
- changing demographics and health needs;
- staff culture and expectations; and
- electronic sharing of information across organisational boundaries and with patients.

2.3 Description of the trust and its services

2.3.1 Trust objectives and strategy

The trust’s enduring governing objectives are:

- excellent outcomes: clinical, research and teaching;
- excellent experience: for patients, staff and GPs;
• excellent value;
• safety and full compliance;
• a strong organisation.

These objectives provide the structure for all that the trust does – planning and annual objectives, strategic risk management and operational delivery. Plans to redevelop CFH must and will support these objectives.

Since 2011 the board has been pursuing an explicit strategy that will enable progress towards the governing objectives. The six development themes that express that strategy in both service and financial terms are:

• extending the role of a major acute provider;
• being a network and system leader, and the surgical hub;
• being a leader in the academic health science system;
• being experts in integrated care;
• reducing unit costs;
• gaining new markets and income sources.

Plans to redevelop CFH will support these development themes.

2.3.2 Organisational structure

The Royal Free has a high performing board, supported by an experienced trust executive. Below are the current members of the trust board.

Dominic Dodd  Chairman of the board and council of governors
Stephen Ainger  Non executive director
Caroline Clarke  Director of finance and deputy chief executive
Dean Finch  Non executive director
Deborah Oakley  Non executive director
Jenny Owen CBE  Non executive director
Prof Stephen Powis  Medical director
Deborah Sanders  Director of nursing
Prof Anthony Schapira  Non executive director
Kate Slemeck  Chief operating officer
David Sloman  Chief executive

The board is supported by a committee structure which reflects the trust’s governing objectives. Other than the trust executive that operationally manages the trust, each is chaired by a non-executive director to ensure appropriate oversight of the performance of the executive.

<table>
<thead>
<tr>
<th>standing committee</th>
<th>governing objective/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>audit</td>
<td>safety and full compliance</td>
</tr>
<tr>
<td>clinical performance</td>
<td>excellent outcomes</td>
</tr>
</tbody>
</table>
2.3.3 Acquisition of BCF – Integrated Business Plan and Transaction Agreement

BCF board concluded in July 2012 that it could not become a sustainable independent foundation trust, and decided to seek a partner through whom it could become part of a successful foundation trust.

In February 2014 RFL’s five year acquisition integrated business plan (IBP) was approved by the RFL trust board and accepted by the NHS Trust Development Authority (TDA), acting as the vendor on behalf of the secretary of state for health. The Transaction Agreement, the legal contract for the acquisition, was later drawn up and signed by all parties in June 2014. RFL statutorily and operationally acquired BCF on 1 July 2014.

Acknowledging CFH as a major contributor to the deficit, the Transaction Agreement for the acquisition gave a commitment from all signatories, including NHS England and the CCGs, to redevelop Chase Farm Hospital. It identified a ‘viable option’ for the chase farm redevelopment which involved refurbishing Highlands Wing and the old maternity block as well as the construction of a new building. A Strategic Outline Case (SOC) was developed on the basis of the viable option which was approved by the trust board in July 2014. Transaction Agreement clauses relevant to the redevelopment of Chase Farm are attached at appendix 2B.

As part of the IBP and Transaction Agreement, a level of transitional support was agreed to ensure RFL maintained a Continuity of Services Risk Rating (CSRR) of 4 and to assure the Royal Free board, the council of governors, local authority scrutiny committees and other stakeholders that the short and long term interest of patients would be protected, and that instability was not being risked.

The transitional funding included a PDC contribution of £xxx towards the redevelopment of Chase Farm and the £xxx I&E support for 5 years from the date of the acquisition (FY15 – FY19 for the Chase Farm site). This funding was on the basis that the trust would submit an OBC within two years of the acquisition.

<table>
<thead>
<tr>
<th>finance and performance</th>
<th>excellent value for money, safety and full compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>integration</td>
<td>strong organisation</td>
</tr>
<tr>
<td>patient experience</td>
<td>excellent experience</td>
</tr>
<tr>
<td>patient safety and compliance</td>
<td>safety and full compliance</td>
</tr>
<tr>
<td>remuneration</td>
<td>strong organisation</td>
</tr>
<tr>
<td>strategy and investment</td>
<td>strong organisation</td>
</tr>
<tr>
<td>trust executive</td>
<td>all</td>
</tr>
</tbody>
</table>
The anticipated high level benefits of the acquisition are set out below.

Table 2.5 Anticipated benefits of acquisition

<table>
<thead>
<tr>
<th>perspective</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>patients</td>
<td>higher quality care through consolidation of services; new service models</td>
</tr>
<tr>
<td>BCF staff</td>
<td>an end to uncertainty and exciting new opportunities through becoming part of the Royal Free</td>
</tr>
<tr>
<td>Royal Free staff</td>
<td>opportunity to develop and deliver a wider range of improved clinical services; practical scope for larger scale clinical research</td>
</tr>
<tr>
<td>commissioners</td>
<td>prevents a major provider from failing, with the attendant risks to their patients; helps them to achieve their financial duties</td>
</tr>
<tr>
<td>vendor</td>
<td>a secure path to BCF becoming part of a successful foundation trust</td>
</tr>
<tr>
<td>hospital service organisation</td>
<td>significant steps towards achieving our governing objectives and realising our development themes</td>
</tr>
</tbody>
</table>

2.3.4 Characterisation of the trust’s hospitals

The locations of the trust’s three hospitals are shown below:

Figure 2.2 Location of trust hospital sites
The Royal Free London is a large acute hospital situated in north central London together with networks of local services run by clinicians at other sites across north London and Hertfordshire. World class care and expertise is provided based on a tripartite mission of service, research and teaching excellence. As a teaching hospital, the Royal Free hosts a major campus of UCL Medical School, some of whose research is of international status. Doctors, nurses, midwives and many other clinical and non-clinical professionals are trained. In 2012/13 the Royal Free had a turnover of £577m prior to the acquisition.

**Barnet Hospital**

Barnet Hospital provides emergency and acute clinical services. Between 1994 and 2003 Barnet Hospital was entirely rebuilt in two phases. The first phase, costing £33m, opened in 1997, and provided surgical wards, theatres, intensive care unit, A&E and maternity. The second phase included medical wards, coronary care and out-patients, designed, built, financed and operated through the Private Finance Initiative (PFI) with the PFI partner Metier. Phase 2 was officially opened in February 2003. All clinical services at BH are in modern, purpose designed buildings.

**Chase Farm Hospital**

Chase Farm Hospital (CFH) is a former district general hospital situated in north Enfield. The buildings at CFH were built over time from the 19th Century to 1995 when Highlands Wing was completed. High profile campaigns have been mounted in support of the retention of acute services at this site. It is a focal point for the provision of health services in Enfield. Previous attempts to redevelop parts of the site for residential housing have resulted in failed planning applications, owing to a lack of certainty about the future of healthcare services at the site.

Barnet Enfield and Haringey Mental Health NHS Trust own the site adjacent to Chase Farm Hospital from which they provide mental health services.

**All trust sites**

The full list of sites from which the trust provides clinical services is shown in the table below.

<table>
<thead>
<tr>
<th>site</th>
<th>main services provided</th>
<th>populations mainly served</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnet Hospital</td>
<td>emergency, and complex elective in patients, out-patients, diagnostics</td>
<td>north Barnet, south Hertfordshire, east Harrow</td>
</tr>
<tr>
<td>Chase Farm Hospital</td>
<td>planned and lower complexity elective, out-patients, urgent care centre, diagnostics</td>
<td>north Enfield, Broxbourne, Barnet</td>
</tr>
<tr>
<td>Cheshunt Community Hospital</td>
<td>out-patients, diagnostics</td>
<td>Broxbourne</td>
</tr>
<tr>
<td>Edgware Community Hospital</td>
<td>out-patients, diagnostics, birth centre, day surgery</td>
<td>west Barnet, east Harrow, south Hertfordshire</td>
</tr>
<tr>
<td>Finchley Memorial Hospital</td>
<td>out-patients, diagnostics</td>
<td>east Barnet, north-west Haringey, west Enfield</td>
</tr>
<tr>
<td>Location</td>
<td>Service Description</td>
<td>Area</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Kentish Town Health Centre</td>
<td>community child health</td>
<td>Camden</td>
</tr>
<tr>
<td>Mount Vernon Hospital</td>
<td>plastic surgery, day cases, out-patients</td>
<td>west Hertfordshire and north west London</td>
</tr>
<tr>
<td>North Middlesex Hospital</td>
<td>ENT, out-patients</td>
<td>Haringey and south Enfield</td>
</tr>
<tr>
<td>Peckwater Centre</td>
<td>community dermatology clinic</td>
<td>Camden</td>
</tr>
<tr>
<td>Potters Bar Community Hospital</td>
<td>out-patients</td>
<td>south Hertfordshire and north Barnet</td>
</tr>
<tr>
<td>Ravenscroft Medical Centre, Golders Green</td>
<td>community dermatology clinic</td>
<td>Barnet</td>
</tr>
<tr>
<td>Royal Free Hospital</td>
<td>emergency, specialist complex elective in-patients, out-patients, diagnostics</td>
<td>north Camden, south Barnet, national and international</td>
</tr>
<tr>
<td>St Albans City Hospital</td>
<td>plastic surgery out-patients</td>
<td>south Hertfordshire</td>
</tr>
<tr>
<td>St Michael’s Hospital</td>
<td>ENT out-patients</td>
<td>Enfield</td>
</tr>
<tr>
<td>St Pancras Hospital</td>
<td>dialysis, diabetes</td>
<td>Camden</td>
</tr>
<tr>
<td>Stephenson House, Euston</td>
<td>adult community clinics</td>
<td>Camden</td>
</tr>
<tr>
<td>The Vale</td>
<td>dermatology</td>
<td>north Barnet</td>
</tr>
<tr>
<td>Tottenham dialysis unit</td>
<td>dialysis</td>
<td>east Haringey and south Enfield</td>
</tr>
<tr>
<td>Watford General Hospital</td>
<td>plastic surgery, day cases, out-patients</td>
<td>west Hertfordshire</td>
</tr>
<tr>
<td>Whittington Hospital</td>
<td>ophthalmology day cases</td>
<td>Islington</td>
</tr>
</tbody>
</table>

### 2.3.5 Activity overview

The table below gives the overarching activity figures for the trust across all sites.

**Table 2.7 Trust activity overview**

### 2.3.6 Trust income and financial position

This table presents the combined Royal Free and Barnet and Chase Farm (BCF) Statement of Comprehensive Income (SOCl). (Note: FY15 includes only 9 months of the BCF SOCI post transaction).
2.3.7 Trust clinical strategy

The trust’s strategy is described in the figure below

*Figure 2.3 Trust overarching strategy*

The trust has a vision that it will be at the core of a health system that provides world class care and expertise, delivering its tripartite mission of service, research and teaching excellence. The development of integrated care is central to the realisation of this vision, and clinical pathway redesign is a key enabler for integrated care. There is clear national, London and local commissioner policy in favour of system integration that facilitates better patient experience, greater convenience for the population and better use of public money.

The trust recognises GPs’ skills and experience in assessing risk and that they are excellent at gatekeeping emergency resources. They make the most effective clinicians in urgent care centres, and this model has therefore been implemented across sites. On the other hand specialists, always fully up to date with current clinical standards in their field, are best placed to assess hospital
referrals, and can offer patient management advice to GPs so as to avoid referral and so speed up treatment.

The following principles have been adopted:

- standardised approach to pathway delivery across CCGs and hospitals
- senior clinical triage with access to multidisciplinary triage where appropriate
- majority of out-patients managed within a community or primary care based service
- community services supervised by senior clinicians
- diagnostics ordered once and only when clinically necessary – reduce over ordering
- one stop service/co-location to improve patient experience
- follow-up once, and only when necessary
- patient centred, safe services
- payment mechanism based on whole system management and clinical outcomes
- quality of GP referrals and clinical thresholds improved – protocol driven
- educational support for primary care through training and development led by senior clinicians
- provision of health and advice telephone lines for clinicians
- integrated IT/information portal/podcasts
- use of technology to deliver virtual services – Skype/telephone follow-up
- decommission procedures of low clinical effectiveness

Joint work on this strategy between GPs and the trust began in earnest in early 2013 when all agreed a set of principles and aspirations for a new set of referral and clinical management pathways to apply to common conditions accounting for the majority of referrals.

Clinicians and GPs have worked together to design clinical pathways that exhibit these features. These pathways do not belong to, nor are unique to, the Royal Free, and they will no doubt be modified by others as time passes. They have been developed to ensure that the service strategy in the context of the acquisition is clinically sound, is supported by GPs and hospital clinicians, and is affordable by CCGs. Although requiring further refinement, the trust believes that each will enhance outcomes and patient experience whilst securing better value for money. The pathways can contribute specifically to commissioner QIPPs through reducing new referrals, the need for consecutive appointments as part of diagnosis and treatment pathways, and so the requirement for follow up. There are now 45 conditions or groups of conditions in the following eight specialties for which new pathways have either been agreed or are in the final stages of discussion, and some are now being tested in practice:

- dermatology
- gastrointestinal disease (gastroenterology and colorectal surgery)
- orthopaedics
- hepatology
- respiratory
- cardiology
- gynaecology
Acting on behalf of the CCGs, the trust is to test a demand management and triaging service delivered by consultants working in partnership with GPs. The protocol for this service will first be to review each referral administratively, followed by consultant triage.

A project management office has been established by the CCGs in common, and the programme is overseen by a CCG chaired programme board.

**Equality and diversity**

RFL has a longstanding commitment to ensuring that services and employment practices are fair, accessible and appropriate for all patients, visitors and carers, as well as the talented and diverse workforce employed.

It is recognised that the local population and hospital workforce is extremely diverse and is becoming even more so. For this reason, it has a moral and ethical, as well as a legal duty, to treat everyone fairly and without discrimination.

The trust’s aim is to deliver personalised services, recognising differences to meet the needs of the diverse patients and communities provided for.

**2.3.8 Trust estates strategy**

An estate strategy was produced by BCF in 2010, the format and content of which follows the three part structure of the DH guidance: ‘This is where we are now’; ‘This is where we want to be’ and ‘This is how we get there’. An estates strategy addendum was produced in 2011 as part of the OBC production for the implementation of the BEH clinical strategy across BCF.

The latest BCF estate strategy and its addendum identify the need to redevelop the Chase Farm site so as to provide fit for purpose estate and rationalise the number of buildings.

The strategy identified the following issues and constraints on the Chase Farm site:

- the site is fragmented in numerous buildings over a large area. It is a mixture of different ages and styles of buildings which have been built up in a piecemeal fashion. This ranges from a number of Victorian buildings to the latest addition ‘The Highlands Wing’ which opened in 1995.
- the residential accommodation to the east of the site has very few tenants and notice has been served. Therefore this is surplus land.
- a high level of backlog maintenance exists throughout the site; the estate does not meet quality requirements. See appendix 2H for a breakdown.
- a boiler house currently serves the whole Chase Farm site. This does not meet modern NHS standards for sustainability and is a costly way to provide energy.
- there is no unified main reception on the site and therefore site navigation is compromised.

A 6-facet survey was undertaken in 2012 identifying all owner occupied areas i.e. excluding the private health provider (Kings Oak) and Mental Health Trust occupied buildings. Key points from the 6-facet survey for Chase Farm are shown below.
Table 2.9 Six facet survey summary

<table>
<thead>
<tr>
<th>survey heading</th>
<th>Chase Farm Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical condition</td>
<td>only 29% of CFH estate is in condition ‘B’ or above. This is generally in the newer buildings such as Highlands Wing</td>
</tr>
<tr>
<td>functional suitability</td>
<td>• 33% of the estate achieves condition ‘B’</td>
</tr>
<tr>
<td></td>
<td>• 66% is assessed as condition ‘C’</td>
</tr>
<tr>
<td></td>
<td>• 1% (vacated space) is assessed as condition ‘D’</td>
</tr>
<tr>
<td>space utilisation</td>
<td>88% of the space at CFH is fully utilised</td>
</tr>
<tr>
<td>quality</td>
<td>assessed at condition B/C with circa 10% at condition D</td>
</tr>
<tr>
<td>statutory compliance</td>
<td>• 61% is rated at condition ‘B’,</td>
</tr>
<tr>
<td></td>
<td>• 38% is rated condition C</td>
</tr>
<tr>
<td></td>
<td>• 1% is rated as a ‘D’ category (these blocks are not used).</td>
</tr>
<tr>
<td>energy</td>
<td>36% is category B</td>
</tr>
</tbody>
</table>

Backlog maintenance was assessed at £xxx for the CFH site. Since then, the trust adjusted its view on backlog maintenance during the acquisition to reduce the level of contingency included and take account of investment that had taken place since. However the level of backlog maintenance still remains very high at £xxx (at 2012 prices). A breakdown is included at appendix 2H.

The trust will be developing an Estate Strategy in 2015 to ensure that future estate plans across all of the trust’s assets are aligned with organisational objectives and the trust’s service strategy including a review of backlog maintenance and the 6 facet survey. This will be available with the FBC.

2.4 The case for change

The two overarching reasons why the CFH needs investment for redevelopment are:

- the poor condition and lack of functional suitability of CFH estate;
- the requirement to improve the financial position of CFH and the local health economy.

Each of these are described below.

2.4.1 Poor condition and lack of functional suitability of CFH estate

The Chase Farm estate dates back to 1884 and the majority of buildings are not conducive to modern standards for clinical service delivery. The clocktower, one of the oldest buildings on site, was originally an orphanage which was converted to a hospital during the First World War. Over time the site has been extended and now totals approximately 65,000 square metres in a mixture of different ages and styles of buildings in varying states of repair. The current site plan below shows the fragmented layout of the site.

As well as the issues set out in the estate strategy summarised at 2.3.8 above, clinical and operational due diligence has identified a number of concerns related to the CFH estate. For
example poor scores in the infection control environmental audits are invariably a consequence of the poor building fabric. In contrast, Barnet Hospital scores are normally 20% higher than those on the Chase Farm site. The ability to isolate patients at Chase Farm has been a major challenge owing to the estate. This can require the closure of whole wards to prevent spread of infection, due to the lack of single room facilities.

Figure 2.4 Current CFH site plan (note: only coloured buildings are owned by

There are a high number of injury claims relating to staff at Chase Farm and the buildings are a contributor to the level of personal injury claims.
The disparate arrangement of the buildings on the site means that patients often have to be transported outside between departments. This is an appalling experience for patients and is an inefficient way to deliver care for the trust.

Rationalisation of the number of buildings and investment in the CFH site is long overdue and is essential in order to facilitate the delivery of modern healthcare in a fit for purpose setting.

2.4.2 Requirement to improve the financial position of CFH and the local health economy.

Financial position of CFH

The inherent inefficiency of the site is reflected in the running costs; the long-term financial modelling carried out in 2014 for the acquisition of BCF by RFL indicated that CFH will make a loss of c£20m (in FY 2018 once all non-recurrent income has finished) on an income of £88m, demonstrating the need for radical improvement.

High level modelling undertaken during the BCF acquisition indicated that an efficiently operated site conducting the same activity as Chase Farm in FY15 should generate a net margin rather than a deficit. Further work has since been undertaken which is set out in the Financial Case.

Given the substantial investment in modern healthcare facilities at North Middlesex Hospital (NMH), and bearing in mind the elective nature of the work remaining at Chase Farm, the failure to provide modern facilities at this site would result in a starkly poorer patient experience for local people, and a gradual but sustained loss of income in future years.

There is therefore the potential for CFH to avoid making a loss and generate a financial surplus for the benefit of the trust and local health economy. Redevelopment would provide the opportunity to design a facility and services around the needs of patients and facilitate more efficient working practices.

Financial position of local health economy

BCF’s two largest commissioners (Barnet and Enfield CCG), between them representing about 60% of its NHS clinical income, are in financial deficit and are expected to remain so for at least the next two years.

The future operating environment within which the problem must be considered has the following features:

- reduced real terms public spending, minimal (formally 0.1% per annum) or no growth in NHS spending, and the need for real terms cost reductions in most of the next 10 years;
- Barnet and Enfield CCGs will do what is necessary to achieve their financial duties early in this planning period;
- a continuing significant increase in population in Barnet and Enfield;
• a continuing significant increase in the number of 85 year olds and older, bringing significant additional demands for complex acute and chronic condition services, outgrowing the effects of demand management; and
• expectation by the public and health regulators of higher standards, and lower tolerance of poor service or outcomes.

From this it follows that in future CFH will have to provide services that offer high quality services, best value for money and that are affordable for commissioners in a tough financial climate.

2.4.3 Previous commitments

It should be noted that the BCF FBC for implementation of the BEH Clinical Strategy gave a commitment to invest in the refurbishment of the maternity block to collocate out-patients on the CFH site. This work was not undertaken because of RFL’s due diligence prior to the acquisition which showed wider options for CFHs future needed to be considered.

In addition, the acquisition of BCF by RFL as set out in the IBP and Transaction Agreement identifies the need to redevelop Chase Farm Hospital in order to remove the financial deficit by FY20 when transitional funding stops.

2.5 Programme vision and objectives

Given the drivers for change described above it is proposed to initiate a programme with the following vision and aim:

‘to create a safe, financially sustainable elective hospital in state of the art facilities which enable excellent clinical outcomes, an excellent experience for patients, staff, visitors and GPs and value for commissioners.’

The following investment objectives were described in the Strategic Outline Case (SOC) in support of this vision and aim:

• To ensure that the services provided are consistent with the BEH clinical strategy providing access to safe and sustainable elective care services that achieve required standards at Chase Farm Hospital.  
  (supports trust’s governing objectives: excellent outcomes, excellent experience, safety and full compliance)

• To ensure that new and refurbished facilities are designed to commissioners’ and the trust’s models of care, improve patient experience, support best practice and to guidelines set out in the relevant Health Building Notes and evidenced based design principles apart from where otherwise derogated.  
  (supports trust’s governing objectives: excellent outcomes, excellent experience, safety and full compliance)

• To develop the site in a way that is affordable to commissioners, to funders and to the trust on both a capital and revenue basis, as quickly as possible.
(supports trust’s governing objectives: excellent value)

- To enable Chase Farm Hospital, and the trust as a whole to achieve high levels of productivity
  (supports trust’s governing objectives: excellent outcomes, excellent experience, excellent value)

- To achieve Estate Code A/B for the campus.
  (supports trust’s governing objectives: full compliance)

2.6 Proposed OBC scope and deliverables

2.6.1 Scope of CFH redevelopment OBC

New hospital

The CFH redevelopment programme encompasses the provision of new hospital facilities concentrated to the west of the site enabling the disposal of a significant proportion of land for housing and a primary school. This OBC is for the investment to redevelop the CFH site and the disposal of surplus land to part fund this.

The proposed site for redevelopment currently accommodates services which will need to be decanted to an alternative location whilst construction is undertaken. These services include the UCC, OPAU, rheumatology, phlebotomy, GP out of hours and maternity clinics and plans for these are included within the scope of the scheme.

In the interim period before the redevelopment is complete, the trust plans to carry out minor works on the site to continue to improve the quality of accommodation for clinical services over the next four years. Most significantly, out-patient clinics are currently located in very poor quality accommodation in the clocktower. The trust has commissioned a development control plan which will be completed in early 2015, to identify the most appropriate solution for improving out-patients in the short term. This will ensure that enhancements are made to the quality of the patient environment as early as possible.

Energy solution

The scope of this OBC encompasses the provision of an energy solution. The current energy provision on site is not sustainable; it is a single boiler house currently serving the whole estate which does not meet modern NHS standards for sustainability and is a costly way to provide energy.

The trust is looking to provide a combined heat and power (CHP) energy centre which would service the hospital as well as the school and some of the new housing on the disposal site. The intention is to have the energy centre designed, built and operated through a tax efficient and innovative third party managed service. An Energy Service Company (ESCO) is a commercial structure providing a broad range of energy solutions. The solution is dependent on work which will continue throughout the FBC development process to ensure this solution is economically viable.
Planning approval will also be dependent on LB Enfield being satisfied with the energy solution.

The trust is currently working with the Carbon and Energy Trust to look at how it can best design, procure and fund the proposed energy centre. An initial feasibility study has concluded that the CHP energy centre should include the new build, Highlands and the residential flats/apartment blocks, thus aligning with the Greater London Authority planning and their energy and sustainability leads. This should enable greater efficiency savings to be made.

Further work is underway to develop the detail of the energy centre with regards to the predicted heat demand, plant allocation and specification, and capital and revenue options. Detailed analysis is also being carried out on the anticipated cost savings associated with the CHP energy centre and how these might be split between the trust and an ESCO. Following completion of this, the trust will look to invite companies to submit expressions of interest and enter into a membership agreement.

**Car park extension**

Car parking spaces will be lost as a result of land sales and therefore some additional spaces need to be provided on the retained land to meet expected demand and satisfy planning requirements. This is being proposed as an extension to the existing multi-storey car park.

The trust is looking at the design, build, finance and operation of the existing and extended car park through a third party operator.

**Staff accommodation**

In addition, the trust is planning to provide 90 bed spaces for staff accommodation. These units will be within the land sold to developers for housing and will be available after 2018/19. It has been assumed that the site on which the keyworker units are located are sold to a Registered Provider with a Nominations Agreement in place.

**2.6.2 Exclusions**

There are some departments which are currently located on the Chase Farm Hospital site that will not be located there in the long term and are therefore not included within the brief for the new hospital. These include the mortuary, some non clinical offices, switchboard and CSSD.

The trust is developing plans for the provision of these in a different way or in a different location. The progress of these separate plans is being monitored by the programme team to ensure they are implemented as required. Appendix 2C contains these plans.

**2.6.3 Changes from SOC to OBC**

The key changes between the SOC approved by the trust board in July 2014 and this OBC are set out below. The overarching reasons for change relate to the further work that has been undertaken to enable a more accurate brief and solution to be identified.

**Scope**
The SOC did not take into consideration or make allowance for an energy solution that is required as part of any new development. It also had not undertaken analysis in relation to future car parking requirements and therefore the need to extend the car park had not been allowed for. These have been included in the scope of the OBC as they are both important for the successful delivery of the new hospital.

The OBC schedule of accommodation (SoA) has been developed based on an agreed set of activity data and incorporating each service’s clinical requirements based on future models of care. The activity assumptions assumed at SOC stage have not materially changed, however the detailed clinical requirements were not available in the SOC as the work had not been advanced at that stage. Therefore the SoA contained in the SOC and in the LTFM in the Transaction Agreement was not as robust as it is now in the OBC. The high level reconciliation is as follows:

Table 2.10 Schedule of accommodation changes between SOC and OBC

<table>
<thead>
<tr>
<th></th>
<th>SOC m²</th>
<th>OBC m²</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance zone</td>
<td>360</td>
<td>644</td>
<td>expanded - further detailed work</td>
</tr>
<tr>
<td>Urgent care centre (with GP OOH)</td>
<td>500</td>
<td>1859</td>
<td>expanded - some new UCC activity and PAU and OPAU weren’t allowed for previously</td>
</tr>
<tr>
<td>In-patient beds</td>
<td>5,372</td>
<td>5,163</td>
<td>consistent with previous estimate</td>
</tr>
<tr>
<td>Surgery unit</td>
<td>3,500</td>
<td>4,010</td>
<td>Expanded - Further detailed work. HDU previously not included</td>
</tr>
<tr>
<td>Out-patient zone</td>
<td>1,480</td>
<td>4,904</td>
<td>Expanded – out-patient space specification has been defined further</td>
</tr>
<tr>
<td>Chemo / PITU</td>
<td>600</td>
<td>1,132</td>
<td>Not previously included in scope</td>
</tr>
<tr>
<td>Imaging</td>
<td>140</td>
<td>581</td>
<td>Expanded - Further detailed work</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>200</td>
<td>1,360</td>
<td>Restaurant, teaching space, retail unit etc. not included originally - Further detailed work</td>
</tr>
<tr>
<td>Endoscopy</td>
<td>1,801</td>
<td>1,351</td>
<td>Not previously included in scope</td>
</tr>
<tr>
<td>Community / civic zone</td>
<td>2,400</td>
<td>1,315</td>
<td>Reduced - Further detailed work</td>
</tr>
<tr>
<td>Whole hospital support</td>
<td>1,630</td>
<td>1,248</td>
<td>Reduced - Further detailed work</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>16,182</strong></td>
<td><strong>24,729</strong></td>
<td></td>
</tr>
</tbody>
</table>

Capital cost

As a result of the increased scope set out above, the capital cost has also increased, along with the proposed running costs. The table below shows the change in capital cost.

Table 2.11 Cost changes between SOC and OBC

<table>
<thead>
<tr>
<th></th>
<th>SOC m²</th>
<th>OBC m²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note, xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Revenue savings

The SOC identified revenue savings as a result of the new build based on a high level benchmarking exercise conducted by the Trust advisors, EY.

At the OBC stage, more detailed financial modelling was undertaken to determine the operational savings from a new build at Chase Farm. The key differences between the SOC and OBC are:

- The OBC assumes the new build is open one year earlier than the SOC, in April 2018 with a full years benefit in FY19;
- The OBC assumes the majority of savings are delivered in the first year, as opposed to over a period of 2 years in the SOC; and
- The quantum of new build savings in the OBC is £xxx.

2.7 Activity modelling

2.7.1 Summary

This section describes how the activity assumptions for the Chase Farm Hospital of the future have been derived. The role of the hospital was defined at a high level in the BEH strategy, and confirmed after public consultation, and that core of the brief required little new debate. The logic behind the brief comprised the following:

- the role of Chase Farm Hospital in the BEH strategy;
- measures to deliver that activity content more efficiently;
- some transfers of elective surgery and endoscopy from Barnet Hospital so as to enable more efficient emergency services at that hospital, and more efficient elective services at Chase Farm Hospital;
- some limited moves of services closer to patients’ homes; and
- growth factors for demographic structural change and access.

The trust maintains a set of evidence based corporate planning assumptions, agreed by its trust executive (for example the growth factors summarised at 2.8.6), that provides the logic for specialty level activity projections. These have been used for forecasting the activity at Chase Farm Hospital up to 2019/20, and the resulting activity forecasts will in turn be modelled back into the trust wide five year activity model. The trust executive has also identified various factors that are expected to require changes in activity or role up to around 2030, and these have been passed to the design team so that the right kind of flexibility is built into the design concept.

2.7.2 The role of Chase Farm Hospital in the BEH strategy

This is therefore the core of the brief, and no aspect of the brief contradicts that strategy. Not all elements of the hospital were listed in the strategy FBC, but were implicit in it, such as theatres, endoscopy suite and clinics.

2.7.3 Measures to deliver that activity content more efficiently

The activity and facilities content of the BEH strategy was worked up over many years, and was finally expressed in 2012. Over that period new and more efficient ways of delivering care have been developed. Some such services were included at a late stage in the strategy, such as the older
person’s assessment unit. The most significant element introduced to the brief is the patient investigations and treatment unit, which is a means of delivering such services efficiently and in a dedicated environment where the staff specialise in organising and delivering a style of care that is growing in its application in long term chronic conditions.

2.7.4 Some elective transfers from Barnet Hospital

Our analysis shows that re-achieving four of the most important national targets in the trust depend on improving the flow of emergency patients through Barnet Hospital and on improving the efficiency of elective surgery through both Barnet and Chase Farm hospitals.

Sustainably achieving the accident and emergency department four hour wait target at Barnet Hospital depends on many factors, but amongst them is the availability of the right quantity of beds, diagnostic and treatment facilities, and beds. Currently some of those resources are devoted to elective services, but we know that improved access for emergency patients would improve the probability of achieving the standard. Elective patients, even day cases, booked at Barnet Hospital are frequently cancelled because of the sheer number of emergency patients. That is why there is now once again a high dependency unit (level 2) at Chase Farm Hospital. Therefore separating the two groups of admitted patients largely (but not entirely) to separate sites will benefit both.

The other three targets that are being missed currently are the three 18 week standards. This is in the context of the inheritance from the former BCF trust of one of the most extensive and complex long waiting time backlogs in England. At an as yet unknown date in the future those targets will be re-achieved for local people, but we are determined that failing them should not recur. Therefore we are planning for a clinically highly efficient elective operation at Chase Farm Hospital where patients are practically never cancelled, and where the facilities are designed specifically for excellent patient experience.

2.7.5 Service changes incorporated into the brief

By far the most important service change implicit in the brief is the assumption that the new patient pathways as described in 2.3.7 will by 2018 have been largely implemented across the catchment of the hospital.

The significance for this business case is that initial assumptions about the number of hospital attendances that are no longer needed have been incorporated into the brief, so ensuring that the hospital is not built too large. Those assumptions vary between 5% and 30% by specialty. Since they are preliminary, they will be regularly reviewed between now and the date of the completion of the final business case. They will then continue to be reviewed, such that the precise proportion of specialties to use the out-patient facilities from 2018 will be decided.

Other than the transfers described in 2.7.4 above, few service moves are proposed as part of the redevelopment. If there were a later phase we would consider with our partners enabling some further consolidation of services. In this brief we are planning only to provide chemotherapy for patients with solid tumour cancers who presently have to travel further from their homes in north Enfield and south-east Hertfordshire for that service. We are especially aware how difficult that frequent travelling can sometimes be for these patients, and we are making use of our successful
experience of developing a local chemotherapy unit on a community site at Finchley Memorial Hospital.

2.7.6 Growth factors

For almost all the services at Chase Farm we have applied an annual growth factor of 2%, extending that model to 2019/10. That 2% has been the subject of internal and external review, and has been shown over recent years to have proved correct, even given demand management measures that we and our commissioners have applied. The 2% comprises a variable factor by local authority for population growth (ONS Census 2011 based population projections), typically more than 1%, but also takes account of the differential growth in very elderly people with their characteristic much more intense use of hospital services (House of Lords, Select Committee on Public Service and Demographic Change, Ready for ageing?, March 2013), the longer period that patients live with complex chronic diseases, and improvement in access (for example effective treatments becoming available for older patients).

Netted from what otherwise would be a higher growth factor are:

- removal from Chase Farm’s activity of procedures of low clinical effectiveness that we know commissioners will not commission (equivalent to about £2.3m of income at today’s prices (FY15);
- further adjustments, to be confirmed later, for the new referral pathways agreed with local GPs;
- an assumption that other system level measures will be developed to abate the growth of demand for hospital services in the five year planning period.

The activity projections, set out below, form the basic brief for the new hospital. Most of the net increases over the current year’s projection are due to transfers, the rest being a response to demographic change.

Table 2.12 Chase Farm Hospital activity projections summary

<table>
<thead>
<tr>
<th>Activity</th>
<th>Currency</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent care</td>
<td>attendance</td>
<td>39,500</td>
<td>40,290</td>
<td>41,096</td>
<td>41,918</td>
<td>42,756</td>
</tr>
<tr>
<td>Day cases</td>
<td>spell</td>
<td>13,771</td>
<td>14,047</td>
<td>14,327</td>
<td>14,614</td>
<td>22,786</td>
</tr>
<tr>
<td>Elective</td>
<td>spell</td>
<td>5,379</td>
<td>5,486</td>
<td>5,596</td>
<td>5,708</td>
<td>7,193</td>
</tr>
<tr>
<td>Non-elective</td>
<td>spell</td>
<td>561</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Out-patients</td>
<td>attendance/procedure</td>
<td>191,201</td>
<td>186,801</td>
<td>190,537</td>
<td>194,348</td>
<td>201,433</td>
</tr>
</tbody>
</table>

2.7.7 Summary of functions not cited in the BEH clinical strategy

In summary some functions are included in the brief that were not explicitly cited in the BEH strategy, as follows:
- theatres and the endoscopy suite (not listed as a separate department in the BEH FBC, but implicit in the activity);
- the specific mix of elective surgery transfer from Barnet Hospital with accompanying high dependency unit (see 2.7.4 above); and
- the chemotherapy service for the treatment of solid tumours (see 2.7.5 above).

2.8 Services overview on the CFH site

This section sets out the proposed model of care and future specifications for each major clinical directorate in the Chase Farm redevelopment. Service specifications in appendix 2D provide more detail.

2.8.1 Overarching service context

The overarching principle behind the new Chase Farm Hospital is:

- to implement symptom based pathway service re-design to the benefit of the patient
- to provide an integrated health campus which promotes seamless management of elective surgery and non acute patient care
- to increase admission avoidance and decrease lengths of stay by moving from an inpatient to a day case / ambulatory model where appropriate
- to provide as much care as possible outside a hospital setting where appropriate

Symptom based pathways are being developed which are key to an integrated service model on the CFH site. More detail is provided at 2.3.7.

It is anticipated that this direction of travel will be facilitated by technological advances and emerging research, many of which cannot yet be characterised. Continuing improvement in medical technology and clinical efficiencies should reduce the space requirements at CFH over the next 5-10 years, meaning that capacity can generated for expanding services or transferring activity from elsewhere. The trust therefore needs to be able to respond to ongoing changes in clinical care pathways and has included the requirement for a flexible building in the brief so that changes in ways of working or future use can be accommodated. More information on flexibility can be found in section 3.1.3.

2.8.2 Rehabilitation

The trust recognises that average lengths of stay on the CFH rehabilitation wards are significantly higher than in many other areas, and believes that by learning lessons from other units, these can be reduced by as much as 50%. The trust will implement models of good practice for both stroke and general rehabilitation and are committed to an agenda of integrated care to support rehabilitation, enabling patient’s needs to be managed effectively within a community setting. Post-Acute Care Enablement (PACE) and Triage and Rapid Elderly Assessment Team (TREAT) service models and the utilisation of community geriatricians will focus on meeting acute rehabilitation needs out of hospital and preventing unnecessary admissions where clinically appropriate. A community geriatrician currently operates across Camden to proactively manage some of the trust’s most
vulnerable patients in the area at home. These service models will be rolled out across all of the RFL sites over the next 4 years. The new rehabilitation and PITU units should absorb some activity currently seen at Barnet Hospital, helping to reduce the current pressure for additional beds. The new models of care will see only those patients with the greatest need admitted to the in-patient beds, with a majority being supported at home.

2.8.3 PITU

PITU will provide non-surgical procedures and treatments in order to avoid unnecessary admissions. Treatments carried out in PITU will include biopsies and lumbar punctures (which do not require a full theatre), infusions over a period of several days (for which a patient could be accommodated in a local hotel overnight) or administration of intravenous antibiotics for patients who do not require admission.

The trust operates a PITU on the RFH site, and will apply the learning from this to Chase Farm. This service will also reduce the in-patient activity at Barnet, which does not currently operate a PITU.

2.8.4 UCC, OPAU and PAU

The model of care for UCC, OPAU and PAU focuses on providing care and intervention in the right place at the right time, avoiding admissions wherever possible and appropriate. Current evidence suggests that the most appropriate way to assess a patient attending an urgent care centre is to undertake triage with an experienced GP. This will encourage clinically appropriate risk assessments and consequently reduce unnecessary treatments and procedures.

The OPAU will provide a therapeutic environment for elderly patients, and will enable multi-agency assessments of those most at risk of un-detected conditions. The unit will also provide some therapies and treatments at the time of assessment to reduce admissions and repeat attendances.

The PAU will deliver holistic multi-disciplinary assessments and treatments for children who are brought in directly or are seen at paediatric out-patients.

2.8.5 In-patient elective surgery and HDU

The redevelopment will enable the trust to reduce the pressure on the Barnet site by increasing the delivery of elective in-patient surgery at CFH. Provision of HDU beds and increased medical cover will give clinicians the required assurance to carry out a greater proportion of surgery at CFH, thereby maximising the amount of activity which can be transferred from Barnet.

2.8.6 Endoscopy

The trust anticipates increasing activity levels across the trust (for example through the national bowel screening programme and potential transfer of activity from elsewhere). For this reason, additional capacity is expected to be needed in the future and therefore shell space has been included in the design to provide capacity to expand.

2.8.7 Out-patients
The trust recognises that there are lots of unknown factors around the capacity requirements of out-patient services across the trust, including the primary care Call to Action which sets out the need for innovation and transformation, and the move towards 7-day working. The out-patient department has therefore been designed to be flexible and include as much generic space as possible, enabling CFH to respond to service change in the future.

2.8.8 MSK

As with out-patients, a number of factors are likely to affect the capacity requirements for MSK at CFH in the future. The trust has an ambition to provide more therapies at CFH and it is likely that the move towards direct-access GP referrals to therapy services will have an impact on activity. Models of care are also changing to promote integrated provision of therapies and emerging pathways will change patient flows, reducing the capacity requirements for therapies in the future. The space provided for MSK will be as generic as possible, and it is recognised that therapies could be provided from other sites if activity increases significantly.

2.9 Capacity requirements

Capacity requirements have been worked up from the activity using assumptions around utilisation, operating hours and throughput. These are summarised in the service specifications for each service in appendix 2D and a schedule of accommodation has been derived, attached in appendix 2E.

The table below summarises the planned capacity compared with current capacity as well as that set out in the BEH FBC.

Table 2.13 Comparison with BEH FBC and current provision

<table>
<thead>
<tr>
<th>service</th>
<th>current service provision (Nov 2014)</th>
<th>planned service provision (2018/19)</th>
<th>comparison with FBC for BEH clinical strategy implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-patient rehabilitation and stroke rehabilitation</td>
<td>44 beds</td>
<td>44 beds</td>
<td>As per BEH clinical strategy FBC (44 beds)</td>
</tr>
<tr>
<td>Other in-patient medical</td>
<td>Napier - 12 beds&lt;br&gt;Capetown - 38 beds&lt;br&gt;Adelaide (part) - 16 beds</td>
<td>No medical beds other than rehabilitation.</td>
<td>Medical beds to be reduced to zero in the short term as capacity at BH and the wider system allows in line with BEH clinical strategy.</td>
</tr>
<tr>
<td>Planned Investigations and Treatment Unit (PITU) + haematology/oncology day care</td>
<td>No PITU haematology/oncology day care 10 spaces</td>
<td>20 places (PITU and haematology/oncology day care)</td>
<td>New delivery model and care closer to home.</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Capacity</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>UCC</td>
<td>Current annualised three month position (Apr14 to Jun 14 x 4) activity equates to 39,500 for FY15</td>
<td>Activity by FY19 assumed to be 41,000, of which 30% are children</td>
<td>As per BEH clinical strategy FBC (estimated 29,745) plus growth</td>
</tr>
<tr>
<td>GP out of hours</td>
<td>Provision on CF site</td>
<td>Provision on CF site</td>
<td>As per BEH clinical strategy</td>
</tr>
<tr>
<td>OPAU</td>
<td>Open 5 days per week.</td>
<td>9 spaces to be open 7 days per week. Capacity for 126 patients per week (9 places per session, two sessions per day).</td>
<td>BEH clinical strategy FBC estimate in 2012 was for 17 spaces.</td>
</tr>
<tr>
<td>PAU / Children’s Services</td>
<td>4 cubicles and 1 isolation space for PAU</td>
<td>3 consulting spaces for core PAU 7 consulting rooms, 1 treatment room</td>
<td>3 PAU spaces, but in context of children’s outpatient space</td>
</tr>
<tr>
<td>In-patient elective surgery</td>
<td>64 beds</td>
<td>48 beds (note: bed numbers calculated are based on reduced lengths of stay, changing models of care and pathways to improve clinical quality and efficiency plus patient experience. The caseload is broadly similar to current and to BEH assumptions)</td>
<td>84 beds</td>
</tr>
<tr>
<td>Day case</td>
<td>18 trolleys</td>
<td>15 places</td>
<td>19 places (due to transfers from Barnet Hospital)</td>
</tr>
<tr>
<td>Theatres</td>
<td>8 theatres in total 6 main theatres working 8am to 6.30pm five days per</td>
<td>8 theatres for elective / day case procedures operating 6 days per week 8am to 7pm by</td>
<td>Number of theatres not explicitly specified.</td>
</tr>
<tr>
<td>Service</td>
<td>Details</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theatre recovery</td>
<td>11 in main theatres, 4 in Surgical Centre, 2 per theatre (16 in total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implicit in BEH clinical strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDU</td>
<td>4 HDU/POCU beds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 HDU beds to allow greater flexibility in elective surgery undertaken on site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 POCU beds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endoscopy</td>
<td>2 endoscopy rooms, open 6 days per week</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 endoscopy rooms plus 2 ‘shell’ rooms for growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open 6 days per week</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not specifically mentioned in BEH. Implicit to maintain 3 rooms as there were no plans to move endoscopy off site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-patients</td>
<td>Currently provided in disparate locations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All specialties currently provided on CFH site will continue to be.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Out-patients to be co-located in a one stop shop environment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 virtual consult booths for telemedicine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Co-location of out-patients with maximum use of generic rooms.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phlebotomy</td>
<td>6 booths open 5 days per week. Children seen in children’s OP/PAU.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anti-coagulation service</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implicit in BEH clinical strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physiotherapy and MSK service</td>
<td>Provision for in-patients, out-patients and direct access</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provision for in-patients on the wards out-patients MSK and direct access via either MSK or</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implicit in BEH clinical strategy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.9.1 Bed modelling

In-patient medical beds will not be re-provided at Chase Farm as the trust plans to repatriate medical patients back to Barnet as the non-elective site through a number of initiatives, namely:

- Transfer of more elective work (consistent with BEH) from the Barnet site to Chase Farm and Royal Free sites. This is supported by key enablers such as the provision of onsite HDU facilities.
- Transfer of work currently undertaken on both Barnet and Chase Farm sites as inpatient activity into planned ambulatory episodes delivered through the proposed PITU.
- Create further bed capacity on the Barnet site through the transfer of existing ambulatory activity such as chemotherapy onto the Chase Farm site.
- Through reducing length of stay through the rehabilitation beds on the Chase Farm site in order that more patients can be seen through the same number of beds.
- Through expansion of community based initiatives such as PACE (post-acute care enablement) and TREAT (triage rapid elderly assessment team) which focus on admission avoidance and early facilitated discharge for a cohort of mainly elderly frail patients.
- Targeted work with care homes to manage patients with end of life care plans more appropriately, avoiding conveyance to hospital and admissions wherever possible.

In-patient elective bed modelling was based on applying the following to current activity data:

**Givens:**
- No overnight stay children (per BEH clinical strategy)
- Beds open for 350 beds pa (ie closed for Christmas/New Year and Easter)
- Operating theatres working on Mondays to Saturdays

**Assumptions:**
- Activity quantum for in-patient work is the sum of existing Chase Farm Hospital elective inpatient work plus certain adult elective work to be transferred from Barnet Hospital.
- From those totals reductions were made for procedures that were likely not to be commissioned by CCGs for reasons of lower clinical effectiveness.
- That activity for the period 1 January 2014 to 30 June 2014 (the first post BEH clinical strategy implementation period) was doubled to produce a full year output, and then an...
annual growth factor for five years of 2% compound per the trust’s annual planning assumptions was applied to take the activity projections to calendar year 2019.

- Annual growth beyond 2019 was assumed to be consumed by annual efficiency thereafter.
- Bed occupancy will vary between Mondays to Fridays (higher) and Saturdays and Sundays (lower). Various combinations considered, but overall average of around 87% across all seven days was agreed.

The table below shows how the elective activity projections are used to model the number of beds. The most recent activity trends do not suggest that this decision needs to be changed.

Table 2.14 Elective inpatient bed modelling calculations

<table>
<thead>
<tr>
<th>Inpatient bed modelling - CF FY19</th>
<th>LoS</th>
<th>FY19</th>
<th>OBD</th>
<th>ABD</th>
<th>Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>1.6</td>
<td>5,682</td>
<td>9,091</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BH</td>
<td>3.6</td>
<td>1,511</td>
<td>5,440</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7,193</td>
<td>14,531</td>
<td>16,675</td>
</tr>
<tr>
<td>Occupancy</td>
<td></td>
<td>87%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of days</td>
<td></td>
<td></td>
<td>350</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.10 Stakeholder engagement

2.10.1 Stakeholders

The redevelopment of CFH will affect hundreds of thousands of patients, as well as the wider health economy in north London and south Hertfordshire. The future of CFH has been subject to considerable debate and anxiety over the years and effective stakeholder engagement is essential to the success of the planned hospital redevelopment. The trust has therefore developed a stakeholder engagement strategy and plan. These set out the trust’s approach to both internal and external stakeholders, the strategic priorities for each stakeholder group and the objectives and key messages to support the management of stakeholder relationships. Each of the stakeholders will be engaged with as set out in the programme’s stakeholder communications and engagement strategy and plan and is discussed more in section 7.7.

2.10.2 Stakeholder engagement undertaken

In order to gain support for proposals to redevelop CFH we have held a series of stakeholder group meetings to share plans with them and hear their views. The summary output from these meetings is at appendix 7F. In addition the chief executive and directors have presented plans to overview and scrutiny committees and held individual discussions with local political leaders as well as local commissioners. The trust has been clear that services set out by the BEH clinical strategy will be provided on site with some additional activity transferring from BH to CFH (e.g. elective surgery) which are viewed as necessary to optimise CFH as a planned healthcare facility and to enable BH to provide emergency services more effectively.
In undertaking engagement work with external stakeholders, the trust has taken care to ensure that staff (particularly at CFH) are informed of the progress of redevelopment plans. Chief executive briefings have therefore been held and meetings with external stakeholders and the content of external briefings has been shared with them in advance.

Clinical engagement is essential to ensure that the redevelopment meets clinical requirements. In order to ensure that the clinical community is fully engaged in planning for the new hospital, an “accelerated learning event” (ALE) was held in October 2014. A total of 137 clinicians and senior managers were given the latest information on our broad plans to develop the site and were asked for their input into shaping the facilities. A summary of the event and output is at Appendix 2F. Since then, there has been intensive clinical engagement in the form of 51 meetings with clinical workstreams to validate activity assumptions, develop operational policies, shape the design development and identify future workforce models.

2.10.3 Commissioner engagement

As explained in 2.2.2 the natural core catchment of Chase Farm Hospital is served by three CCGs (Enfield CCG, East and North Hertfordshire CCG and Barnet CCG). These three CCGs were therefore named in the transaction agreement for the acquisition as the lead commissioners for supporting the business case, and to act as such for all other commissioners.

The chief officer of Enfield CCG, the area within which the hospital lies, is a founding member of the programme board for this development. Being in the best position to judge how the development should proceed from a commissioner’s point of view having been involved also in the BEH clinical strategy, amongst her roles on the board is to act as the representative for the other two CCGs.

As stated in section 2.2.2 the three CCGs’ commissioning intentions for 2015/16 have been considered in the context of this development. No new factor has been identified in them that should prompt a review of the functional content. The trust will in the same way examine the local CCGs’ five year plans when they become available.

The strategic outline case that was agreed by the Royal Free board in late July 2014 was forwarded to the three CCGs. The summary activity brief and assumptions that form the basis of this outline business case, and as discussed at the programme board, were provided to the three CCGs in October 2014.

The trust has held a series of stakeholder meetings in Enfield to show the developing plans to statutory partners. CCG staff have attended some of those events. Trust staff attended the governing body meetings of Enfield CCG and Barnet CCG in December 2014, and East and North Hertfordshire CCG in January 2015, to remind members of the scope and timetable for the development, and to answer any remaining questions.

A letter of support is attached at appendix 2G.

2.10.4 Barnet Enfield and Haringey Mental Health NHS Trust engagement
Barnet Enfield and Haringey Mental Health NHS Trust (BEHMHT) own and occupy the site adjacent to Chase Farm Hospital. There has been an ongoing dialogue between them and RFL during the development of the OBC. Access to the mental health estate will be maintained throughout the construction and post construction period in accordance with the access rights reserved. The detail of these arrangements will be agreed in due course.

Both parties are reviewing consequences for hard and soft FM delivery, both in the construction period and in the post redevelopment operational phase.

2.11 Benefits

A benefit realisation strategy has been adopted to set out a vision for the benefits to be gained from the redevelopment of CFH. The aim is to quantify the benefits wherever possible and to ensure that they can be measured and demonstrated over time. This is consistent with the approach to benefits realisation adopted for the integration programme.

The overall benefits of the redevelopment have been identified as follows:

- facilitate high quality care which supports the achievement of clinical and non clinical standards;
- increase sustainability to service delivery on site, offering greater reassurance to the community of Enfield and North London about the safe future of Chase Farm site and the importance the NHS strategically places upon it;
- offer improvements to the local community;
- improve patient experience of trust services;
- help the trust to achieve sustainable financial viability after the acquisition of BCF;
- eliminate backlog maintenance;
- achieve land sale disposal receipts for the benefit of service improvement;
- provide flexibility to enable other services to be developed on the site in future;
- improve staff morale, recruitment and retention;
- increase efficiency and productivity; and
- improve the quality of the estate, ensuring fit for purpose accommodation.

The benefits realisation plan is at appendix 7A. These set out how the benefits above will be measured, how the trust currently performs and targets for post-redevelopment.

2.12 Constraints, dependencies and key assumptions

Key dependencies include:

- obtaining planning permission;
- obtaining commissioner support for proposals;
- obtaining a financially acceptable agreement with a developer / contractor for land and site development;
- approval of OBC and FBC by trust board;
• approval of OBC by Department of Health;
• approval of FBC by Monitor, Department of Health and Her Majesty’s Treasury;
• successful implementation of projects affecting services currently on the CFH site excluded from the brief.

Key constraints include:
• consideration of other stakeholder proposals for the site within an acceptable timescale;
• external approval timescales are uncertain;
• delivery of required savings before 1 July 2019 when transitional funding support stops;
• town planning consent and conditions affecting affordability;
• road access must be maintained to BEH mental health trust and kings oak hospital throughout works.

The redevelopment is planned on the basis of the assumptions below that:
• the trust will not be acquiring land to facilitate the redevelopment;
• land disposals will commence once outline planning approval has been received, before FBC approval;
• no changes to services are taking place that would require public consultation;
• land will be sold to fund the cost of the redevelopment;
• the redevelopment at CFH will be consistent with and support the BEH clinical strategy;
• implementation should minimise disruption to clinical services;
• that the new build site will be cleared of clinical services before site works commence (as part of a separate project).
3. Strategic case – design, estates and facilities

3.1 Design quality and philosophy

3.1.1 Overarching design principles

Designs have been developed with clinical working groups and are attached at appendix 3A. Clinical leads have provided clinical sign off to these designs which were then verified at the Chase Farm Redevelopment Operational Steering Group.

Consideration of the clinical and non-clinical operational requirements has been given including:

- departmental relationships and adjacencies to reflect inter-departmental movement between each area, for patients, staff and goods;
- careful planning of room and departmental relationships to maximise daily and weekly availability throughout the working week;
- creation of rooms and facilities that are multifunctional in use which offer easy opportunity for flexibility as well as being dedicated to specific specialities;
- a design which will allow clinical rooms to be well supported by non-clinical facilities, regardless of specialty;
- standards and room sizes to reflect the function and the activities for which the space is designated;
- the ability to adapt and change to meet future changing demand;
- consideration of environmental needs and sensitivity to the characteristics of the local and immediate surrounding area.

3.1.2 Development Control Plan (DCP)

A Chase Farm Capital Group has been established, chaired by Fiona Jackson, Chase Farm Hospital Director and Director of Integrated Care, which reports to the trust Capital Management Group (CMG). This group is responsible for the planning and co-ordination of the capital programme at Chase Farm for the period through to completion of the new development in 2018. Its remit includes planning the site assembly for the new development, as well as capital improvements to the existing estate to enable it to operate safely and efficiently through this period. A key initial activity is the procurement and appointment of a professional team to produce a costed and detailed development control plan (DCP) for the site to cover the works and moves required. This team has been appointed and a DCP is anticipated by the end of February. Therefore the full DCP will be available at FBC stage, however a high level master plan of the proposed final solution is shown below in figure 3.1.
Site assembly to provide vacant possession for the early disposal sites for a school and residential development are already in progress for completion by Spring 2015. A series of low-cost/high impact works are also being taken forward to improve the environment for staff and patients at Chase Farm outside of the scope of this OBC.

The disposal strategy and vacant possession strategy sets out the planned disposal dates of each parcel of land and how vacant possession will be achieved. These are attached at appendix 6F and 6H.

3.1.3 Flexibility in design

An important element of the design is ensuring flexibility and providing sufficient space for future expansion, whilst providing a hospital which is not too large and is used efficiently. A number of factors have been considered in determining how the building may need to flex or expand in the future, which include demographic changes, epidemiological changes, maturity of the new pathway models and NHS structural change. These factors could potentially lead to the need for future developments on the site and these are being factored in to the Development Control Plan (DCP) which is currently underway.
A number of organisations have already expressed an interest in being located on the CFH site. The trust is aware of UCL’s proposals for a research institute on the site, and Enfield CCG regarding the potential for a GP practice integrated with the UCC. In addition, the Barnet, Enfield and Haringey Mental Health Trust are reconfiguring their services and may have a requirement for additional space at Chase Farm in future. The trust may also look to expand elective surgery subject to increase in market share.

In order to address the potential need for service expansion in the future, and to enable the trust to accommodate additional services if required, the design includes high levels of flexibility. The challenges set by the trust to the design team have been three-fold:

- ensure that the design is flexible so changes can be made to the new building internally with minimum disruption to other services and cost;
- design the building in such a way that is both efficient at day one, yet enables ease of expansion at a number of levels, either horizontally or vertically, in the medium term;
- strike a balance between retaining sufficient land for long term healthcare development, with maximising that available for disposal to fund the initial scheme.

A number of key features have been incorporated into the design:

- the new building has been set out on a relatively large structural grid (8.2m x 8.2m). This reduces the number of structural columns that would otherwise limit the options in re-organising the internal space;
- floor heights have been set that allow for most functions in most areas of the hospital to be accommodated with allowance for building services distribution and runs;
- the engineering design is being made flexible with infrastructure future proofed with ductwork and pipework sized for additional capacity and loads.
- standard sized rooms have been used in some areas which can accommodate multiple different uses, where appropriate in the context of affordability.
- designated ‘soft spaces’ such as offices and other non critical accommodation, which can more easily be displaced if required to expand main clinical departments.
- large, relatively deep plan floors are planned for ground and first floor to provide maximum flexibility for change.
- the main core (with bed, passenger and FM lifts and one staircase) is centrally located so that there is easy access to all quadrants of the building regardless of the number of floors.
- the rehab ward floor could accommodate circa 15 additional in-patient beds. In addition, both surgical and rehab wards only occupy approx. 50% of the available footprint of the new building. The remainder of the floor is therefore available for future expansion with the main service cores already being provided (equating to an additional 4,300m²).

In addition to the above, the new compact hospital allows functional relationships and workflows to be developed to enable the highest levels of efficiency and lean processes. The design has been prepared on the basis that the new acute healthcare scheme is condensed onto a limited area to the north-west of the site. This allows the maximum area of site to be released for housing to assist with funding of the new hospital as well as allowing for future expansion zones.
Space will also remain available around the site of the new building for expansion. The loading bay/service yard and energy centre are located away from the new building to the other side of the existing service road, freeing the site around the building to the north for significant horizontal expansion (approx. 8,000m$^2$). As a separate business case, Highlands could be replaced with a 4-storey new building (10,600m$^2$) or be refurbished and land to the south of this could also be built upon subject to removal of mature trees (5,000m$^2$).

3.1.4 Sustainable development

In line with LB Enfield planning policy and national guidance, the trust will instruct its design team to ensure BREEAM Excellent in all new build elements of the scheme is achieved, and is described in more detail in 3.2.7 below. Aspects of sustainability including waste management, water usage, use of sustainable materials and sustainable construction will continue to be considered throughout the design process, and the manner in which these may be addressed is described the sustainability statement in appendix 3B. Proposed methods include:

- a site wide CHP is proposed within the energy centre, with an expectation that this will realise significant efficiency savings
- photovoltaic panels may be installed
- water usage on the hospital site will be minimised
- the trust will look to use materials with low embodied carbon and which can be sourced responsibly
- fuel consumption from site transport will be monitored and minimised
- the building will meet the appropriate acoustic performance standards and testing requirements for sound insulation, indoor ambient noise level and reverberation times
- insulation material with A or A+ Green Guide ratings will be selected wherever possible
- a site waste strategy will be prepared to address minimising and managing waste at design, construction and operational stages of the project

3.1.5 M&E principles and energy efficiency

The building will be designed to reduce energy consumption through consolidation of the estate and improved efficiency measures in line with building regulations. The project team will take a positive approach to promoting energy efficiency through encouraging good building design and the inclusion of passive energy control measures where appropriate (such as high insulation levels, low building air permeability, optimised glazing arrangements).

It is proposed at this stage that the energy which is required will be delivered through a Combined Heat and Power (CHP) energy centre and possibly solar photovoltaic (PV) panels. The energy centre primary objective is to reduce and meet carbon reduction targets set by the greater London authority (GLA) to obtain the required planning consent.

The energy centre will service the hospital, and possibly the school and housing. The CHP system is such that as the heat load increases, so does efficiency. A CHP system has been modelled for the development which demonstrates considerable efficiency savings. More detail of this analysis can be found in appendix 3C. The total reduction in emissions resulting from energy efficiency and the
installation of CHP and PV is estimated at 35% compared to the Regulated emissions from the site designed to just meet Building Regulations.

The trust is looking to procure this using an ESCO and this will be developed between OBC and FBC.

3.2 Design compliance and reviews

3.2.1 Compliance with DH consumerism requirements

The table below sets out how the design addresses consumerism issues.

<table>
<thead>
<tr>
<th>Table 3.1 Design response to consumerism</th>
<th>how addressed in design</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A design that provides acceptable levels of privacy and dignity at all times.</td>
<td>With a high percentage of single bedrooms and gender designated 4 bedrooms in the wards the design meets standards on providing same sex accommodation.</td>
</tr>
<tr>
<td>b. Gender specific day rooms.</td>
<td>Surgical patients will have a short length of stay (circa 1.3 days) and specific gender day rooms are not deemed necessary. The model for rehabilitation is that patients will be expected to be dressed in their own clothes during the day. Gender specific dayrooms do not align with facilitating the social aspects of the rehabilitation service model.</td>
</tr>
<tr>
<td>c. High specification fabric and finishes to reduce lifecycle costs.</td>
<td>These items will be specified at detailed design stage and beyond, particularly fabric selection for curtains and furniture.</td>
</tr>
<tr>
<td>d. Natural light and ventilation</td>
<td>Detailed design work on the ventilation strategy is still work in progress. The Trust’s aspiration is that the building maximises the amount of natural ventilation where practical. Natural light: All the patient rooms in the wards have natural day light. The design team are reviewing the potential to increase the level of daylighting to other accommodation. This will be taken forward in the next design stage.</td>
</tr>
<tr>
<td>e. Zero discomfort from solar gain.</td>
<td>Brise soleil and other solar shading devices such as integral blinds can be incorporated at detailed design stages to rooms on the solar path as the design develops.</td>
</tr>
<tr>
<td>f. Dedicated storage space to support high standards of</td>
<td>Storage and cleaners rooms have been included in the schedule of accommodation and within the 1:200</td>
</tr>
<tr>
<td>Housekeeping and user safety.</td>
<td>Plans to satisfy user group requirements. These have been signed off through user group meetings.</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>g. Dedicated storage for waste awaiting periodic removal</td>
<td>Each department has a disposal hold identified, the theatres have multiple disposal holds associated with the theatres rooms – see schedule of accommodation and 1:200 drawings.</td>
</tr>
<tr>
<td>h. In-patient bed room configurations of &gt;50% single en-suite and &gt;5 bed bays with separate en-suite WC and shower facilities with 3.6m bed centres</td>
<td>Greater than 50% single rooms will be achieved across the site. See section below. Within the 4 bed bays the size of the rooms are compliant with the 3.6m bed centres.</td>
</tr>
<tr>
<td>i. Single sex washing and toilet facilities</td>
<td>Yes, within single bedroom there are dedicated en-suites. The 4 bed rooms will be single sex. All WC’s with the exception of the assisted versions can be identified as male or female.</td>
</tr>
<tr>
<td>j. Safe and accessible storage of belongings including cash</td>
<td>To be developed through the 1:50 design development process.</td>
</tr>
<tr>
<td>k. Immediate access to patients to call points for summoning assistance</td>
<td>To be developed through the 1:50 design development process.</td>
</tr>
<tr>
<td>l. Patient control of personal ambient environmental temperatures</td>
<td>Brief for extent of patient control of environment to be agreed and developed at detailed design stage.</td>
</tr>
<tr>
<td>m. Task lighting at bed head conducive to reading and close work</td>
<td>To be developed through the 1:50 design development process.</td>
</tr>
<tr>
<td>n. Patient bedside communication and entertainment systems</td>
<td>To be developed through the 1:50 design development process and within IT briefing strategy.</td>
</tr>
<tr>
<td>o. Elimination of mixed sex accommodation (2011)</td>
<td>The four bed bedrooms in the wards will be gender specific</td>
</tr>
</tbody>
</table>

**Percentage of single rooms**

The brief includes a majority of single rooms on the surgical wards (83%) and a majority of four bed bays on the rehabilitation wards, with some single rooms for infection control reasons. The clinicians strongly believe that a model of four bed bays in rehabilitation will provide mental stimulation for patients who have a high likelihood of being socially isolated without the need to sit in a day room which would increase their chances of developing pressure ulcers; and improve the ease with which these patients, many of which are at risk of falling, can be monitored by staff.

The design as it currently stands provides 67% single rooms in both surgical and rehabilitation wards due to uniformity of ward design and building stacking solutions. However, the trust is committed to meeting the clinical brief between OBC and FBC and will revise the ward designs accordingly as
soon as the PSCP and supply chain are appointed. This will result in 83% single rooms on surgical wards and 27% on rehabilitation wards and will therefore match the brief as set out in the schedule of accommodation.

**Clinical review and sign off**

Clinical teams have been integral to the development of the design. The layouts were agreed for submission in the OBC, subject to the above commitment on single rooms, at a meeting with Divisional Directors, Divisional Director of Operations, Divisional Director of Nursing and the Chief Operating Officer on 15 January 2015.

3.2.2 **DQI design review**

As part of the design development, the trust has undertaken a stage 2 DQI process. A workshop was held with representation from the estates department, clinical staff and the design team.

The DQI assessment report is included in appendix 3D.

3.2.3 **Health technical memorandum (HTM) compliance**

The M&E design will be developed in detail for the FBC, and the trust aspires to achieve HTM compliance. Derogations will be minimised and only applied where there is a clinically sound economic argument.

3.2.4 **Health building note (HBN) compliance**

A schedule of derogations has been compiled to show the areas in which the Schedule of Accommodation and 1:200 designs do not meet HBN guidance. Where appropriate, reasons for these derogations have been provided. The schedule of derogations can be found in appendix 3E.

3.2.5 **NHS control of infection and decontamination**

The infection control team has reviewed the 1:200 designs and confirmed that these are compliant with trust standards. A letter of support is attached in appendix 3F. Infection control will continue to be engaged throughout the detailed design process.

3.2.6 **Fire safety**

A fire strategy has been completed. The NHS Authorising Fire Engineer has reviewed this along with the designs and a letter of support is attached in appendix 3G. The trust will be looking to comply with FireCode, and this will be demonstrated as the design processes.

3.2.7 **BREEAM pre-assessment**

AECOM have undertaken the BREEAM Design Stage Pre-Assessment which is attached at Appendix 3H. The pre-assessment is based on the verbal and written expressions of intent by the design team during the BREEAM pre-assessment meetings. Two ratings are provided at this stage:
A targeted minimum rating which relates to credits likely to be achieved at certification. This achieved a score of 70.02%, an ‘Excellent’ rating.

A potential maximum rating which includes all targeted credits and also potential credits which could realistically be achieved, although there may be some uncertainty at this point or no clear indication has been given. This potential maximum score is 77.05%, also an ‘Excellent’ rating.

The achievement of credits is subject to the commitments being upheld throughout the detailed design stage and completion of a post construction review which demonstrates that all the design stage commitments have been implemented in practice.

3.3 Information technology

As part of the redevelopment of the Chase Farm Hospital, the IM&T Directorate will deliver a range of informatics systems and services that will support the delivery of care that is integrated around the individual patient and which puts the patient at the heart of their care, by:

- putting patients in control of their care;
- giving clinicians the information that is required to deliver the best possible outcomes, whilst ensuring the highest possible levels of patient safety; and
- ensuring that clinical and care data is securely shared with all partners in delivering care, whether these organisations are NHS, social care, voluntary or private sector.

The IM&T facilities within the new CFH will build on the Trust’s IM&T strategy which was approved by the Trust Board in April 2011. Key to the delivery of the vision for the new hospital will be a common informatics platform across all facilities where the Trust provides clinical services to ensure seamless patient-centred care wherever care is delivered.

Strategic themes

The Trust’s IM&T Strategy comprises five themes:

- **Theme 1 – Connecting the Health Economy**: ensuring that all relevant data associated with the care and treatment of patients is available where and when it is required across organisational boundaries.
- **Theme 2 – Connecting Healthcare Delivery**: creating a single electronic clinical record within the organisation. This will hold timely, accurate and comprehensive information about the patient’s condition, current and historical treatment and access to key data from other organisations.
- **Theme 3 – Connected Infrastructure**: creating an ‘open’ infrastructure that will allow secure access to clinical services at the point of care.
- **Theme 4 – Reporting and Analytics**: the integration of data from across the organisation (clinical, financial, workforce etc.) into a single data repository, and the implementation of world class analytic tools and techniques to support real-time alerting, predictive analytics and optimising the use of resources through modelling and simulation.
• **Theme 5 – Training and Capability:** ensuring that staff are properly equipped to make most effective use of the IM&T facilities provided to them with training customised for specific job roles.

More detail on the trust’s plans for delivering the IM&T strategy in the new hospital is provided in section 6.3.

### 3.4 Travel plan

A travel plan was submitted to Enfield Council as part of the outline planning application, and is included in appendix 3J. This outlines the trust’s plans to encourage staff, patients and visitors to use sustainable modes of transport to the hospital. Plans include:

- green travel noticeboards in patient areas, providing location maps of the site and plans of walking and cycling routes to local destinations and public transport information
- dedicated webpage with travel information
- lockers, storage and shower facilities for staff wishing to walk or cycle to work
- bike to work scheme (to enable staff to purchase a bicycle for a reduced price) and cycle training
- season ticket loans for staff wishing to travel to work by public transport
- a car sharing database
- increasing flexible working arrangements, reducing the need to travel to work

The travel plan addresses parking at the hospital. The trust will implement the following measures:

- provision of an appropriate number of parking spaces for disabled badge holders
- patient and visitor parking based on a simple tariff system
- drop-off zones for patients and for staff attending emergencies, with parking for up to 20 minutes
- staff parking permits for staff who meet a set of criteria, which will be paid for by a monthly deduction from their salary.

The travel plan will be monitored for the first five years after the building becomes operational. This will enable the trust to review the success of the measures outlined above, and the need to amend or introduce new measures.

### Car parking

A multi-storey car park currently exists on the CFH site, providing approx. 500 spaces. Additional surface level parking brings the total spaces at CFH to 1190 spaces. The redevelopment and associated land disposals will result in the loss of all surface level parking, and an extension to the car park is therefore proposed, providing 902 spaces in total. A survey was carried out to establish the car parking requirement, by monitoring activity over a 24 hour period during a typical week. Peak demand was shown to be 985 vehicles. This is expected to reduce following the implementation of a full car park management system, as well as the reduction of staff accommodation on site.
An appropriate level of public parking will be exclusively allocated to Disabled Badge holders, and will be located as close to the hospital entrances as possible. These marked bays will be free of charge and will allow a maximum stay of 3 hours. Parking for other patients and visitors will operate a simple tariff system to avoid patients and visitors from making unrealistic estimates of how long they think they will need to park. Charges will apply 24/7 and the tariff will be advertised at pay points and on the website. A limited number of drop-off spaces will be provided at the hospital, at which free parking will be allowed for a maximum of 20 minutes. A weekly ticket discount will continue to be provided by the Trust to those patients who need to attend hospital frequently.

Staff attending emergencies and or loading/unloading will be entitled to use the drop off zones, for a period of up to 20 minutes. Staff wishing to park for longer will need to apply for a permit. These will be granted to permanent staff who are directly employed by the trust and meet a set of criteria.
4. **Economic case**

4.1 **Introduction**

In accordance with the Capital Investment Manual and requirements of HM Treasury’s Green Book this section of the OBC documents the range of options considered in response to the potential scope for investment identified within the strategic case. The process of appraisal is described including:

- identifying the critical success factors and objectives for the investment;
- identifying benefit criteria to appraise options;
- generation of the long list of options and the process for establishing a short list;
- descriptions of the short listed options;
- the qualitative benefits appraisal;
- the economic appraisal;
- risk appraisal;
- benefits quantification;
- identification of the preferred option.

4.2 **Critical success factors and objectives for the investment**

The programme’s vision and aim is described in the strategic case:

‘to create a safe, financially sustainable elective hospital in state of the art facilities which enable excellent clinical outcomes, an excellent experience for patients, staff, visitors and GPs and value for commissioners.’

As detailed in the Strategic Case, the following investment objectives have been determined in support of this vision and aim:

1. To ensure that the services provided are consistent with the BEH clinical strategy providing access to safe and sustainable elective care services that achieve required standards at Chase Farm Hospital.

2. To ensure that new and refurbished facilities are designed to commissioners’ and the trust’s models of care, improve patient experience, support best practice and to guidelines set out in the relevant Health Building Notes and evidenced based design principles apart from where otherwise derogated.

3. To develop the site in a way that is affordable to commissioners, to funders and to the trust on both a capital and revenue basis, as quickly as possible.

4. To enable Chase Farm Hospital, and the trust as a whole to achieve high levels of productivity

5. To achieve Estate Code A/B for the campus (see 2.11).
Given the aim and investment objectives, the critical success factors for the redevelopment of Chase Farm Hospital are considered to be:

- **Strategic fit** - How well the option supports the trust’s overall business strategy and needs including:
  - the overarching aims of the BEH clinical strategy;
  - the commissioners’ strategy;
  - allows for future flexibility.

- **Patient centred** - How well the option:
  - improves the patient experience;
  - improves the quality of the environment for patients, visitors, carers and staff;
  - improves clinical outcomes by promoting integrated care.

- **Value For money** - How well the option:
  - maximises value for money in terms of delivering the benefits, efficiency and effectiveness;
  - minimises construction risks compared with other options;
  - minimises operational risks compared with other options.

- **Achievability** - How well the option is likely to be delivered in respect of the trust’s ability to:
  - delivers future models of care and future activity volumes;
  - minimises disruption to the trust’s operations during construction and service change;
  - achieves planning permission.

- **Affordability** - How well the option:
  - matches the likely availability of funding;
  - enables the trust to meet its key financial targets in the medium to long term by reducing the deficit at Chase Farm;
  - is affordable to commissioners.

### 4.3 Benefit criteria for appraising options

In order to qualitatively assess the options, benefit criteria were developed to describe the key deliverables the preferred option should achieve. These criteria are based on critical success factors and investment objectives, and are set out below.

The benefit criteria were developed as part of the SOC development process. These were then refined during the non-financial options appraisal workshop to ensure they remain the most appropriate criteria at OBC stage. The criteria of ‘satisfies planning requirements’ was removed and added to implementation as a sub-section. The criteria as used at OBC are as follows:

1. **Programme for delivery**
   - length of time to complete the development
   - achievement of the required revenue savings by July 2019
• complexity of build – infrastructure issues, levels.

2. Implementation and deliverability
• phasing: minimises the number of phases.
• disruption: minimises disruption and decanting to the patient group and maintains service activity levels during the construction.
• service disruption: disruption to hospital services during the works.
• satisfies planning requirements.

3. Effective use of the estate and flexibility
• opportunity for future expansion – buildings and car park
• flexibility to accommodate more/less activity.

4. Productivity and efficiencies
• optimising functional adjacencies for patients and staff to enable best practice service delivery
• reducing in-patient lengths of stay, increasing day case rates, reduce waiting time and achieving other clinical efficiencies for the benefit of patients
• improving recruitment and retention of staff
• makes efficient and effective use of staff time, supporting workforce planning, and economies of scale

5. Clinical effectiveness and quality of care
• supports the service models and adjacencies
• improved patient experience
• reducing reported clinical incidents
• enabling compliance with CQC standards and other healthcare related standards
• enabling compliance with other generally applicable standards such as safety standards.

6. Improving the quality of estate and ensuring fit for purpose accommodation
• compliance with statutory legislation governing hard FM
• achievement of estate code A/B for the campus
• enhancing the environment for patients, relatives, carers, visitors and staff
• reducing the incidence of hospital acquired infection rates which are directly influenced by the built environment

7. Supports trust’s strategy
• being consistent with BEH clinical strategy
• supporting the trust’s clinical and business strategy
• service and organisation sustainability

The relationship between the benefit appraisal criteria, benefits, and with the project objectives and the trust’s governing objectives is contained within the benefits realisation plan at appendix 7A.
4.4 Long list of options

A long list of options was developed by the Project Team during SOC development based on their experience of developing investment options and knowledge of the site. Following this, recommendations were made about which options to shortlist and appraise in the OBC. During the OBC development process, this long list was reviewed and the ‘do minimum’ option was modified to include backlog maintenance only, in order to represent a true do minimum.

The option of closing Chase Farm Hospital and re-providing its services, either on an alternative greenfield site or at other hospital sites, have not been included in the long list of options. CFH provides local access to services and this was fully assessed as the BEH clinical strategy was developed. These options would therefore be contrary to the BEH clinical strategy, and, because of the extended timescales and uncertainty, are likely to be unacceptable to patients, local people, the local health economy and therefore to the trust. This option has not therefore been further considered.

All options which involve retention of Highlands assume that Highlands is converted to out-patient accommodation. The rationale for this is because of the constraints of the existing building which lends it to an out-patient setting.

Details of the long listed options are included in appendix 4A. A high level scoring process has been carried out to assess whether each option broadly meets each benefits criteria. A score of 2 indicated that an option does meet the criteria, 1 indicates partial achievement and 0 has been assigned where the criteria is not met. Those which did not appear to meet sufficient benefit criteria and therefore achieve the lowest score at this stage were discounted. The outcome of the short-listing process is shown in the table below:
<table>
<thead>
<tr>
<th>option / criteria</th>
<th>1 Programme for delivery</th>
<th>2 Implementation and deliverability</th>
<th>3 Effective use of the estate and flexibility</th>
<th>4 Productivity and efficiencies</th>
<th>5 Clinical effectiveness and quality of care</th>
<th>6 Improving the quality of estate and ensuring fit for purpose accommodation</th>
<th>7 Supports trust’s strategy</th>
<th>Score</th>
<th>Shortlisted?</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Do Nothing – continue to provide existing services in present accommodation</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>No</td>
</tr>
<tr>
<td>1. Do Minimum – carry out interim works, listed in section above, and backlog maintenance.</td>
<td>0</td>
<td>1 (significant decants)</td>
<td>0</td>
<td>0</td>
<td>1 (backlog would improve care in some department s)</td>
<td>1 (backlog to improve all buildings to condition B)</td>
<td>0</td>
<td>3</td>
<td>Yes – as baseline</td>
</tr>
<tr>
<td>2. Do Minimum plus additional works – improve infrastructure, main entrance and enable some rationalisation.</td>
<td>0</td>
<td>1 (significant decants)</td>
<td>1 (some buildings vacated and demolished )</td>
<td>0</td>
<td>1 (as above)</td>
<td>1 (as above plus additional improvement works)</td>
<td>0</td>
<td>4</td>
<td>No</td>
</tr>
<tr>
<td>3. New build on site of current UCC. Retain Highlands and maternity</td>
<td>2</td>
<td>1 (some decants)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>Yes</td>
</tr>
<tr>
<td>4. New build site of current UCC. Retain Highlands only</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>14</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>New build east of Highlands – on site of existing clock tower. Retain Highlands only.</td>
<td>1</td>
<td>0</td>
<td>(see rationale for siting below)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>-----------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5.</td>
<td>New build south of Highlands – on site of existing clock tower and associated plant buildings. Retain Highlands only.</td>
<td>1</td>
<td>0</td>
<td>(see rationale for siting below)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>New build to rear of clock tower – involving demolition of the clock tower. Retain Highlands only.</td>
<td>1</td>
<td>0</td>
<td>(see rationale for siting below)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>All new build on site of current UCC – accommodate all services in new build. Retain Highlands (empty).</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>8.</td>
<td>All new build south of site – accommodate all services in new build. Re-provide car parking</td>
<td>2</td>
<td>0</td>
<td>(see rationale for siting below)</td>
<td>0</td>
<td>(car park/land disposal)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>SOC Do Minimum – works specified by BEH only</td>
<td>2</td>
<td>1</td>
<td>(significant decants)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>(relocation of Out-patients and OPAU to improve care quality)</td>
<td>1</td>
</tr>
</tbody>
</table>
Rationale for siting of the redevelopment

Options 5, 6, 7 and 9 in the long list were discounted primarily due to location. All shortlisted options (with the exception of the ‘do minimum’) involve a redevelopment on the north-west corner of the site. The north-west corner was selected on the basis that:

- the existing hospital has to remain fully operational throughout the redevelopment – few clinical services are currently located in this area.
- Highlands and maternity are more recent existing buildings, and both could be refurbished and included in the new CFH complex. These are sited in the north-west corner of the site.
- car parking provision in the future would be in the multi storey car park and the redevelopment therefore needs to be close to it. A new multi storey car park on another area of the site would be less likely to be affordable or achieve planning permission.
- the north-west corner is of lower value than the south-east of the site; disposal of land on the south-east of the site would maximise the capital the trust could gain from capital receipts.
- a healthcare use restrictive covenant exists on the north-east corner of the site which means it could not immediately sold for an alternative use and relaxation of the covenant would have financial implications for the trust.

As a result of the long list appraisal, options 3, 4 and 8 were shortlisted as the highest scoring options. The ‘do minimum’ option is also included in the shortlist as a benchmark.

4.5 Short list of options

The following describes the options in more detail. For each option, a site plan and 1:500 drawings showing layouts and clinical adjacencies are included in appendix 4B.

Option 1 – Do minimum

Option 1 involves undertaking backlog maintenance to all remaining buildings on site. This option does not involve any land disposal, extension of the car park or provision of an energy centre. This option would involve multiple decants due to the extent of the backlog maintenance works, and would take up to 10 years with associated benefits realised thereafter.

Option 3 – New build on site of existing UCC. Retain Highlands and maternity

This option assumes:
- refurbishment of the old maternity block to accommodate out-patients and admin, plus expansion space
- refurbishment of Highlands to accommodate the UCC, OPAU and PAU (ground floor); PITU, infusions suite, gynaecology, and the breast clinic (first floor)
- new build on site of current UCC to accommodate plant and FM services, day surgery, imaging, endoscopy, two surgical wards and two rehabilitation wards

In addition, this option would involve extending the multi-storey car park and providing a new energy centre. It would provide land to the south of Highlands for future expansion. Option 3
enables two parcels of land to be sold in 2015 (one for housing and one for a school), and two additional parcels to be sold in 2018/19 (for housing). Options 3, 4 and 8 all assume the same disposal strategy and proceeds.

This option requires relocation of the UCC, OPAU, rheumatology and phlebotomy while the new build is carried out. This option would be completed in 2018, with associated benefits realised thereafter.

**Option 4 – New build on site of existing UCC. Retain Highlands**

Option 4 is the same as option 3, except that it does not include retention and refurbishment of the maternity block. The new building is larger to accommodate these services, as follows:

- Highlands refurbished to accommodate out-patients and MSK (ground floor); and additional out-patients, gynaecology and breast clinic (first floor)
- New build to accommodate plant and FM services, imaging, endoscopy, infusions suite, OPAU, UCC, PAU, day surgery, HDU, PITU and four in-patient wards (two surgical and two rehabilitation).

This option would involve extending the multi-storey car park and providing a new energy centre. This option provides no expansion space within the building, but more land is available for future expansion than in Option 3. As in Options 3 and 8, Option 4 enables two parcels of land to be sold in 2015 (one for housing and one for a school), and two additional parcels to be sold in 2018/19 (for housing).

This option requires relocation of the UCC, OPAU, rheumatology and phlebotomy while the new build is carried out. This option would be completed in 2018, with associated benefits realised thereafter.

**Option 8 – All new build on site of existing UCC. Retain multi-storey car park but no clinical accommodation.**

Option 8 does not involve refurbishment of any non-clinical buildings on site, instead providing one new build on the site of the existing UCC to accommodate all services:

- New build to include plant and FM services, out-patients, MSK, OPAU, UCC, PAU, imaging, infusions suite, PITU, day surgery, endoscopy, gynaecology, breast clinic and four in-patient wards (two surgical and two rehabilitation).

This option also involves extending the multi-storey car park and providing a new energy centre. This option provides no expansion space within the building, but significantly more space is available for future expansion than in Option 3 or 4 as Highlands is emptied and mothballed. The future of Highlands would be subject to a separate stand-alone business case.

As in Options 3 and 4, Option 8 enables two parcels of land to be sold in 2015 (one for housing and one for a school), and two additional parcels to be sold in 2018/19 (for housing).
This option requires relocation of the UCC, OPAU, rheumatology and phlebotomy while the new build is carried out. This option would be completed in 2018, a few months before Options 3 or 4 would be completed, with associated benefits realised thereafter.

4.6 Non-financial options appraisal

The qualitative appraisal of the shortlisted options was undertaken with involvement from a wide representation from key clinical and non clinical stakeholder groups within the trust, as follows:

**Table 4.2 Staff included in non-financial option appraisal scoring**

<table>
<thead>
<tr>
<th>name</th>
<th>title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiona Jackson</td>
<td>Director of Integrated Care and CFH Hospital Director</td>
</tr>
<tr>
<td>Andrew Panniker</td>
<td>Director of Capital and Estates</td>
</tr>
<tr>
<td>Helen Pickering</td>
<td>Programme Director</td>
</tr>
<tr>
<td>Alan McAlister</td>
<td>Finance</td>
</tr>
<tr>
<td>Maggie Robinson</td>
<td>Head of Property</td>
</tr>
<tr>
<td>Chris Moriarty-Baker</td>
<td>Estates Programme Manager</td>
</tr>
<tr>
<td>Mark Bateman</td>
<td>Estates Project Manager</td>
</tr>
<tr>
<td>Anna Bellamy</td>
<td>Programme Manager</td>
</tr>
<tr>
<td>Mike Dinan</td>
<td>Director of Financial Operations</td>
</tr>
<tr>
<td>Kim Fleming</td>
<td>Director of Planning</td>
</tr>
<tr>
<td>Tim Peachey</td>
<td>Chair, Chief Clinical Information Officer</td>
</tr>
<tr>
<td>Gareth Cruddace</td>
<td>SRO</td>
</tr>
<tr>
<td>Steve Shaw</td>
<td>Divisional Director Urgent Care</td>
</tr>
<tr>
<td>Natalie Forrest</td>
<td>Programme Director, Hospital Integration</td>
</tr>
<tr>
<td>Linda McGurrin</td>
<td>Divisional Director Operations, Surgery &amp; Associated services</td>
</tr>
<tr>
<td>Alastair Mossman</td>
<td>Workforce Workstream Lead</td>
</tr>
<tr>
<td>Sue Lyons</td>
<td>Divisional Director of Operations, Transplant and Specialist Services</td>
</tr>
<tr>
<td>Katie Donlevy</td>
<td>Director of Service Transformation</td>
</tr>
<tr>
<td>Kate Slemeck</td>
<td>Chief Operating Officer</td>
</tr>
<tr>
<td>Emma Kearney</td>
<td>Interim Director of Corporate Affairs and Communications</td>
</tr>
</tbody>
</table>

**Weighting of benefit criteria**

Before appraising the options, members of the appraisal panel were asked to consider the criteria in turn and agree a weighting to reflect the relative importance of each. This was done as a group and the results are shown in the table below. Detailed descriptions of each benefit criteria can be found in section 4.3 above.
Table 4.3 Benefit criteria weighting

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Programme for delivery</td>
<td>11</td>
</tr>
<tr>
<td>2 Implementation and deliverability</td>
<td>10</td>
</tr>
<tr>
<td>3 Effective use of the estate and flexibility</td>
<td>15</td>
</tr>
<tr>
<td>4 Productivity and efficiencies</td>
<td>15</td>
</tr>
<tr>
<td>5 Clinical effectiveness and quality of care</td>
<td>18</td>
</tr>
<tr>
<td>6 Improving the quality of estate and ensuring fit for purpose accommodation</td>
<td>13</td>
</tr>
<tr>
<td>7 Supports trust’s strategy</td>
<td>18</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Scoring of options

Participants were asked to score each option against each criterion. They opted to do this as a group rather than individually reaching a consensus through discussion. It was understood that the quantitative (financial) appraisal might alter the ordering of the shortlist, but that beyond the broad financial achievability and improvements in productivity, financial considerations were not part of this appraisal.

Scores were given out of 10, with 10 as the highest possible score for a perfect solution. The weighted scores for each option are shown in the table below:

Table 4.4 Option scores – raw and weighted

<table>
<thead>
<tr>
<th>option</th>
<th>option 1 - do minimum</th>
<th>option 3 - new build, retain Highlands and maternity</th>
<th>option 4 - new build, retain Highlands</th>
<th>option 8 - all new build</th>
</tr>
</thead>
<tbody>
<tr>
<td>criteria</td>
<td>weight</td>
<td>score</td>
<td>weighted score</td>
<td>score</td>
</tr>
<tr>
<td>1 programme for delivery</td>
<td>11</td>
<td>4</td>
<td>44</td>
<td>8</td>
</tr>
<tr>
<td>2 implementation</td>
<td>10</td>
<td>4</td>
<td>40</td>
<td>5</td>
</tr>
<tr>
<td>3 effective use of the estate</td>
<td>15</td>
<td>1</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>4 productivity and efficiencies</td>
<td>15</td>
<td>1</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>5 clinical effectiveness and quality of care</td>
<td>18</td>
<td>5</td>
<td>90</td>
<td>8</td>
</tr>
<tr>
<td>6 improving the quality of estate and ensuring fit for purpose accommodation</td>
<td>13</td>
<td>6</td>
<td>78</td>
<td>9</td>
</tr>
</tbody>
</table>
Option 8 achieves the highest scores for qualitative benefits. It would have the shortest build time of all the options and has the most straightforward implementation, as it involves few decants and no refurbishment of part occupied buildings. It makes effective use of the estate by releasing a large portion of the site to be sold, and providing space for future expansion. A new build would be designed with optimal clinical adjacencies and departmental layouts, meaning operational efficiencies, productivity and quality of care should be high. Option 8 fully supports the trust strategy, as it satisfies the requirements of BEH and ensures long term sustainability of the Chase Farm site.

Options 3 and 4 achieved similar scores for many criteria, with differences caused by the retention and refurbishment of maternity in option 3, providing a poorer quality of accommodation than a new build. As the refurbishment of maternity in option 3 would happen concurrently with the refurbishment of Highlands, the timescales for implementation would be the same. Both options 3 and 4 would involve disruption associated with refurbishing Highlands. Both options facilitate the sale of large portions of the site, with option 4 providing additional space for future expansion. Productivity and efficiencies would be reduced by refurbishing an existing building. A low score for this benefit was given to option 3, as it involves accommodating a number of services in refurbished buildings joined to the new build with link corridors. In option 4, the only service accommodated in a ‘remote’ building linked to the new build is out-patients, which has few functional relationships with services in the main building. It was felt that, due to the high proportion of new build accommodation in option 4, that clinical effectiveness, quality of care and quality of clinical accommodation would be high. While the refurbishment of Highlands for out-patients would provide slightly poorer quality of accommodation than a new build, providing this service in a dedicated building rather than in the main hospital could improve the patient experience as it would feel less ‘clinical’. Both options 3 and 4 support the trust’s strategy by meeting the requirements of BEH, facilitating estate rationalisation at CFH and ensuring long term trust sustainability. Option 4 supports the trust’s strategy to a greater extent by providing a higher quality of clinical care and more flexibility for the future.

Option 1, do minimum, involves a programme of backlog maintenance works which would be undertaken over 5-10 years and would require most services to decant while works are undertaken to each building. It does not enable the trust to sell any land, as few buildings would be vacated (most clinical services would remain in their current locations and the staff accommodation would be likely to remain on site). Retention of a large site with disparate buildings would not facilitate improvements to productivity or efficiency. Option 1 was given mid range scores for quality of care and improved quality of the estate, as backlog maintenance works would improve the quality of all buildings to condition B, and would improve the quality of patient care to an extent. The ‘Do Minimum’ option does deliver the services specified in BEH, however these would not be provided in
suitable accommodation and no estate rationalisation would be possible. The option does not enable the trust’s long term viability.

Sensitivity analysis shows that no change to any single score would change the preferred option. Similarly, no change to the criteria weighting alters the preferred option because option 8 scores highest against all benefit criteria.

4.7 Financial options appraisal

This section provides an overview of the main costs associated with each of the options and explains how they were derived.

The economic appraisal is based on the whole life costs and relevant property related revenue and operating costs. It includes all capital costs, lifecycle costs, maintenance and FM costs, utilities, clinical and non-clinical operating costs, but excludes VAT, rates and capital charges. It also includes the valuation of certain benefits and risks.

4.7.1 Capital costs

The trust and its advisors have developed a schedule of accommodation and functional requirements based on the agreed scope, together with an initial design and construction and decanting programme. The capital costs of all options have been produced by Turner & Townsend cost consultants are summarised in the table below. Option 1 has been based upon the latest estimate of backlog maintenance which is attached at appendix 2H.

Costs for the energy centre are included within the capital cost envelope at this stage however it is the trust’s intention to have the energy centre designed, built and operated through a tax efficient and innovative 3rd party managed service that may be off balance sheet. An ESCO is a commercial or non-profit business providing a broad range of energy solutions. The partner operates under a contract which may range from 15-25 years, and would be responsible for the design, build, and management of the energy assets and delivery of heat and power.

The trust would benefit from energy savings, where the savings are guaranteed to exceed the fee payable to the operator. The savings can then be used to payback the operator capital investment or could be reinvested back into the estate. The Royal Free operates an ESCO with Mitie/Utilyx.

During the period between the OBC and FBC the trust will undertake due diligence, load analysis and outline design, benchmarking and commence the procurement process. The revenue implications of the funding options will also be considered.

Similarly, between the OBC and FBC the trust will be looking at design, build, finance and operation of the existing and extended car park through a third party operator such as Vinci Park who have examples at Broadgreen Hospital Liverpool, Gloucestershire Royal Hospital and East & North Herts
NHS Trust. Typically the operator would enter into a 1-15 year contract depending on capital investment required.

They would be responsible for design and build of the required car park extension to take the parking allocation up to the required 900 spaces and then would be responsible for the management and enforcement.

Therefore the inclusion of these as capital costs as set out below, represents a ‘worst case scenario’ that will look to be removed between OBC and FBC.

**Table 4.5 Capital cost of shortlisted options**

The full OB forms are included in appendix 4C, and are based on the following assumptions:

- the chosen procurement route is ProCure21+;
- a medium level of specification internal refurbishment has been priced to the existing Highlands Wing (options 3 and 4 only) and maternity building (option 3 only), including a full strip-out of the existing layouts (i.e. strip-out of all existing internal walls, doors, finishes, FF&E and M&E distribution), with existing primary plant retained and reutilized;
- demolition costs are based on demolition of Ante-Natal Clinic, Rheumatology, Hobart House, UCC, MRI, X-Ray, Link Corridor, Part of Clock Tower Building (i.e. Offices, North Block, Chapel & Finance) and maternity block in options 4 and 8;
- inflation is included in accordance with PUBSEC indices to the current proposed construction start date of Q1 2016. A further 12 month inflation allowance has been made to secure the works packages for the proposed 2 year construction programme;
- no VAT is charged on design and other fees, since this is generally recoverable. All other VAT recovery is excluded;
- the substructure and structural frame elements are designed to accommodate future expansion. Validation of the structural elements to achieve this requires substantiation by the design team;
- no allowances have been made for decanting or temporary accommodation. It is assumed any decanting or temporary accommodation requirements will be undertaken and funded by the trust.
The following items are excluded from the capital costs for the reasons given:

- transitional costs – these are dealt with in revenue costs;
- decanting, decommissioning of existing departments and temporary accommodation – these will be funded separately by the trust;
- backlog maintenance – the resolution of backlog maintenance to existing buildings is excluded but there are certain backlog works which will be resolved as a result of the refurbishment works to the various sections of work (Options 3 & 4 only);
- utilities charges – these are dealt with in revenue costs;
- services infrastructure costs – services infrastructure costs are not included in the OB forms except where identified in the scope of works;
- internal trust costs – internal costs are not included in OB forms but trust management costs are included in revenue costs;
- finance costs – these are dealt with in revenue costs;
- specialist surveys and additional work resulting from these – xxxxxxxxxxxxx;
- legal fees.

4.7.2 Optimism bias

Optimism bias has been calculated for the hospital build, car park and the results are summarised in the table below. The detailed optimism bias calculations are attached in appendix 4D.

As can be seen from the table, the optimism bias figures for options 3, 4 and 8 are very similar.

Table 4.6 Optimism bias calculations

4.7.3 Revenue costs
Clinical revenue costs have been calculated through a series of clinical workstream meetings with key staff. They are based on the 1:200 designs and planned ways of working. Further detail is provided in section 5.5 of the finance case.

Estates revenue costs have been estimated according to advice from trust FM leads and current costs at other trust sites, adjusted according to floor area. Assumptions and workings for all estates costs are shown in the GEM at appendix 4F.

4.7.4 Lifecycle costs

The trust’s technical advisors have provided a high level lifecycle cost model based on the capital costs above, assessed over the life of the buildings. These costs cover the renewals of engineering elements and are assessed over sixty years following completion, the normal appraisal period for new build. Refurbished areas have also been assessed over a sixty year period, to ensure the outcome is comparable for each option.

The lifecycle costs are based on the following assumptions:
- figures presented in real terms
- "do minimum" assumes basic LCC requirements for fabrics, finishes and services
- LCC costs are based on first principle build-ups, unless stated
- energy data based on CIBSE TM46
- economically sized replacement contracts placed, priced on a competitive basis
- all workmanship, usage, training and maintenance are as per manufacturers’ recommendations.
- a proper planned preventative maintenance regime is in force throughout the period.

The lifecycle cost profiles are included in appendix 4E.

4.7.5 Net present cost findings

As required by Treasury guidance, the costs of each of the programme options have been considered over the whole estimated life of the buildings, using the generic economic model (GEM) which is provided in appendix 4F. The assumptions upon which it is based are detailed below.

The main principles and assumptions used for the modelling were:
- the whole life of the project is 60 years;
- the base year (i.e. Year 0) for the appraisal period is 2014/15, since this is also the base year for the financial appraisal and the year before any build costs are incurred;
- cash flows for the relevant capital costs have been provided by the trust’s cost consultants;
• revenue costs have been calculated by the trust’s finance team through clinical workstream meetings (clinical) and benchmarking from other trust sites and from cost advisors (estates);
• all costs are expressed in real terms in 2014/15 prices, the effect of inflation is ignored so that it doesn’t distort the discounting of the cash flows;
• all capital costs exclude VAT and the cash flows exclude capital charges;
• sunk costs, i.e. costs already incurred are excluded;
• differences in running costs between Options 3, 4 & 8 differ according to area only;
• no decant or double running costs have been included as these have not yet been quantified;
• xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
4.8 Risk appraisal

Later discussed in section 7, the trust’s approach to risk management is in accordance with its own board assurance framework, the capital investment manual and the Treasury “Green Book”.

The project team has run regular workshops to identify and assess the risks associated with the shortlisted options. A risk management plan has been developed (attached in appendix 7D) which sets out the following for every risk identified:

- likelihood of risk (score 1-5) for each shortlisted option
- impact of risk (score 1-5) for each shortlisted option
- risk mitigation action and owner

Comparison of options

Options 3, 4 and 8 have the same risk profile (in terms of risk probability and impact) in respect of the new build element. Options 3 and 4 have additional risks associated with refurbishment of Highlands and (in the case of Option 3) maternity. The full risk profile of each is included in appendix 4G. The additional risks associated with Highlands and the old maternity building are shown in the tables below:
Table 4.8 Additional risks associated with the old maternity building (applicable to option 3)

<table>
<thead>
<tr>
<th>RISK DESCRIPTION</th>
<th>maternity building</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>probability</td>
</tr>
<tr>
<td>Efficiencies will not be achieved if high proportion of maternity building is retained.</td>
<td>4</td>
</tr>
<tr>
<td>Structural amendments and upgrades required for maternity</td>
<td>3</td>
</tr>
<tr>
<td>Insufficient capacity of existing plant to facilitate new building works for all departments in maternity</td>
<td>3</td>
</tr>
<tr>
<td>Existing plant is nearing its end of life span, for maternity</td>
<td>4</td>
</tr>
<tr>
<td>By utilising maternity, we limit the flexibility and future expansion</td>
<td>4</td>
</tr>
<tr>
<td>Cannot sufficiently extend existing multi-storey car park</td>
<td>5</td>
</tr>
<tr>
<td>Additional cost for unforeseen works required on maternity</td>
<td>3</td>
</tr>
<tr>
<td>Additional site infrastructure works and services required</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4.9 Additional risks associated with Highlands wing (applicable to option 3 and 4)

<table>
<thead>
<tr>
<th>RISK DESCRIPTION</th>
<th>Highlands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>probability</td>
</tr>
<tr>
<td>Risk efficiencies will not be achieved if high proportions of Highlands is retained</td>
<td>3</td>
</tr>
<tr>
<td>Structural amendments and upgrades required for Highlands</td>
<td>3</td>
</tr>
<tr>
<td>Insufficient capacity of existing plant to facilitate new building works for all departments in Highlands</td>
<td>2</td>
</tr>
<tr>
<td>Existing plant is nearing its end of life span, for Highlands</td>
<td>4</td>
</tr>
<tr>
<td>By utilising Highlands, we limit the flexibility and future expansion</td>
<td>2</td>
</tr>
<tr>
<td>Additional cost for unforeseen works required on Highlands</td>
<td>2</td>
</tr>
</tbody>
</table>

As can be seen, option 3 carries more risks as high and medium rated risks are identified in relation to the refurbishment of the maternity building.

Quantitative risk assessment

Following the qualitative scoring, two risk workshops were held to quantify the relative risks of options 3, 4 and 8. Attendees included cost consultants, architects, M&E engineers and trust project managers. Once agreed, costs were circulated to the wider design team for review. The cost impact has been split between capital and revenue impact and this is summarised below. More detail can be found on the risk registers included in appendix 4G.
Revenue risks were also considered with input from finance and workforce to quantify their relevant impact should they transpire. The workings are attached at appendix 4H and included within the GEM.

### Table 4.10 Quantitative risk assessment

The capital sum for risks shown above forms the basis of the contingency sum included in the capital cost plans in appendix 4C.

### Summary

4.9 Cost benefit analysis

In order to determine which option represents the best value for money, the financial and non financial appraisals have been combined to generate a net present cost (NPC) per unit of value added for each option. This is shown in the table below:

### Table 4.11 Cost benefit analysis
4.10 Sensitivity analysis

Sensitivity analyses were undertaken to the NPC and benefit scores, identifying the variations that would be required to the NPC or benefit scores to enable Options 3 or 4 to demonstrate a comparable level of benefit for the cost. The table below show the percentage change in cost required to alter the outcome of the options appraisal.

Table 4.12 Switching point analysis – NPC

The table below shows the outcome of the benefit score switching point analysis.

Table 4.13 Switching point analysis – benefit score

4.11 Quantification of benefits

In order to demonstrate that the preferred option delivers sufficient health and regeneration benefits, the trust has undertaken an exercise to quantify selected benefits to the public, local community and the wider NHS.

4.11.1 Approach and methodology
Members of the project team reviewed the benefits realisation plan to identify those which are already included within the revenue cash flow in the financial options appraisal. These were excluded from further quantification to avoid ‘double count’ of benefits. These result primarily from internal efficiencies such as reduction in length of stay and increased productivity.

The benefits quantified and the assumptions used to calculate their value are shown below:

- incidence of HCAI (healthcare acquired infections) at CFH
- creation of construction jobs
- co-location of services resulting in reduced repeat visits
- reduced number of adverse events resulting in fewer clinical negligence claims
- reduced number of adverse events resulting in fewer public liability claims
- reduced bank/agency staff costs
- reduced staff sickness
- sustainability improvements - reduced Carbon footprint

For each of these a method of quantification was identified to quantify the level of benefit anticipated between the options. For example, in order to quantify the benefits of reducing the number of clinical negligence claims against the trust, average numbers and costs of claims were calculated and an assumed percentage reduction was applied as advised by the trust legal team. Calculations and assumptions for all benefits are shown in appendix 4I.

4.11.2 Outcome

Benefits were calculated based on the cost reductions and benefits associated with a particular measure. Costs assigned to each benefit for each option were inputted into a discounted cash flow model to capture their impact over the 60 year lifespan of the building (provided in appendix 4I). The outcome of this is shown in the table below:

| Table 4.14 Quantified benefit NPV |

The table shows that the benefits to the trust, local community and wider NHS associated with the quantifiable benefits are significantly higher for options 3, 4 & 8 than for option 1. This is because option 1 does not address benefits associated with staff morale, collocation of services or efficiencies on site.

The differences between the options 3, 4 & 8 are not significant, as they all assume the same service provision from the same site from high quality buildings. The key point of difference is the value of the construction work to the economy through creation of jobs. This is calculated by applying a 3x multiplier (supplied by HMT) to the construction value of the scheme. The construction value of option 3 is approx. £xxx.

The NPV per year associated with each benefit is shown in table 4.15 below.
Table 4.15 NPV associated with each benefit per year

<table>
<thead>
<tr>
<th>Option</th>
<th>NPV</th>
<th>Qualitative Benefit</th>
<th>Mitigated Risk Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.12 The preferred option

The results of the investment appraisal are as follows:

Table 4.16 Option appraisal summary

The table shows that option 8 scores better than all other options for qualitative benefit scores and mitigated risk rating. Options 3, 4 & 8 achieve similar scores for risk-adjusted NPC and marginal benefit as they all assume the same service provision from high quality buildings on the same site.
Option 8, the preferred option has subsequently been developed in more detail and is set out in section 3 of this OBC.

4.12.1 Background to trust preferred option

The option developed as the ‘viable option’ in the transaction agreement for the acquisition of BCF by RFL identified the equivalent of option 3 as the viable option (excluding a car park and energy solution) – which was to refurbish the maternity building, refurbish Highlands and build the remainder new.

In the development of the OBC, the trust anticipated option 4 to be the greatest value for money option, based on its knowledge of the poor condition of the maternity building. Detailed work was undertaken to look at the best use of Highlands Wing in the longer term and due to the layout it was advised by the design team that modern standard inpatient wards were not able to be accommodated within Highlands without significant refurbishment and inefficiencies. The trust therefore proceeded with option 3 and 4 on the basis of using Highlands as an outpatient building.

The trusts M&E advisor carried out surveys on the plant serving Highlands as part of the development of options 3 and 4 and this showed that all services would need to be replaced to provide the required resilience and warranties and efficient integration with the new building. The costings associated with this concluded that Highlands required significantly more capital spent on it than expected and as a result the option identified in the option appraisal as providing greatest value for money was option 8, an all new build option.

CFH redevelopment Programme Board subsequently approved the preferred option to be option 8 for the OBC as set out above.
5. Finance case

5.1 Introduction

Financial modelling at the time of the acquisition of BCF by RFL confirmed that as a result of the implementation of the BEH clinical strategy, Chase Farm Hospital had a significant recurrent deficit position.

In addition, the trust inherited an inefficient healthcare facility on the Chase Farm site. The estate dates back to 1884 and comprises a mixture of different ages and styles of building in various states of repair. For almost 10 years the buildings have not been appropriately maintained which has resulted in significant backlog maintenance.

As a result, the transaction considered the rebuild of the Chase Farm Hospital as a key driver for the sustainability of the enlarged organisation in the future.

The financial case builds upon the strategic direction set out in the strategic case and the economic options appraisal. The economic case concludes the preferred capital model of option 8. This financial case analyses the financial impact on Chase Farm of the preferred option.

5.2 Summary of financial position

The financial section analyses the impact of the redevelopment of the Chase Farm site on income and expenditure, balance sheet, capital investment and cash flow.

As a result of the implementation of the BEH strategy in December 2013, Chase Farm Hospital is forecast to make a normalised deficit of £xxx.

The financial impact of the new hospital build and transfer of elective activity from Barnet, is to both increase the efficiency of the clinical services provided at Chase Farm, and to decrease the running cost of the estate. Total cost savings (pay and non pay) of £xxx are forecast in FY19 – the first full year of the new build, leading to a planned improvement in the recurrent I&E position. The FY19 planned surplus is £xxx, which is after non recurrent transition funding of £xxx. The normalised position is therefore a deficit of £xxx which is in line with the deficit forecast in the transaction LTFM. Chase Farm is forecast to generate a recurrent surplus of £xxx from FY20.
5.1 Income and Expenditure summary

The following gives an overview of the financial analysis from FY13 to FY20:

- The financial position is analysed in more detail below.

5.3 Past financial performance of the trust

The trust has historically (pre FY13) delivered a financial surplus (£3.1m in FY11 and £1.7m in FY12). In FY13 there was a small deficit. Revenue from patient care activities had remained relatively consistent between FY11-FY13. The trust had experienced little change in the pattern and mixes of non-pay and operating expenses over this period, and had generally seen expenses change in proportion to the income margin.

FY14 represents the first year (part year effect) of the BEH clinical strategy implementation (December 2013). As such the financial year 2012/13 was the final full year of the previous trust’s operation before the BEH clinical strategy. The financial year 2013/14 represented nine months pre BEH clinical strategy impact and three months of post BEH clinical strategy impact.

The resultant position of this change was a move from a breakeven/surplus position in FY11/FY12/FY13 to a loss making position of £16m in 2013/14 for the former Barnet and Chase Farm NHS Trust, which only reflected a proportion of the full loss making impact of the BEH clinical strategy for both sites. Chase Farm moved from a £5m surplus in FY13 to £0.3m surplus in FY14 (the FY14 position included £9.2m of transitional funding from CCGs – recurrent £9m loss overall).

The historical income and expenditure (for both sites) is presented in the table below.
Table 5.2 Income and Expenditure (2012/13 and 2013/14):

<table>
<thead>
<tr>
<th>INCOME &amp; EXPENDITURE</th>
<th>FY13 £m</th>
<th>FY14 £m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CF</td>
<td>BH</td>
</tr>
<tr>
<td>NHS Clinical Income</td>
<td>139.9</td>
<td>179.5</td>
</tr>
<tr>
<td>Non NHS Clinical Income</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>Other Income</td>
<td>18.5</td>
<td>16.6</td>
</tr>
<tr>
<td>Total Income</td>
<td>160.2</td>
<td>198.3</td>
</tr>
</tbody>
</table>

Pay: (86.3) (111.0) (197.3) (70.3) (111.8) (182.0)
Non Pay: (36.4) (50.2) (86.6) (39.3) (57.9) (97.2)
Overheads: (23.8) (29.7) (53.5) (22.0) (33.7) (55.7)

Operating Expenses, Total: (146.5) (191.0) (337.4) (131.6) (203.4) (335.0)

EBITDA: 13.8 7.3 21.1 8.5 (3.8) 4.7
EBITDA %: 0.1 0.0 0.1 0.1 (0.0) 0.0

Net Surplus/(Deficit): 5.0 (6.3) (1.3) 0.3 (16.7) (16.4)

In summary, the above table indicates that the Chase Farm site made a surplus of £5m in 2012/13 and £0.3m in 2013/14. The reduction of £4.7m across the two years relates to the part year impact of the BEH clinical strategy. As noted above, the Chase Farm FY15 position is budgeted to be £10.2m deficit, with the combined Barnet and Chase deficit in FY15 of £32m. The Barnet deficit rectified over the 5 years period through merger synergies and a CIP challenge at a higher rate of inflation due to opportunities at the site.

Financial modelling has confirmed that a new efficient hospital building will address the economic in-efficiencies of the existing site which include an old, poorly maintained estate spread across a large site.

The historical balance sheet for the combined Barnet and Chase Farm Hospitals NHS Trust is presented below. The trust does not report the balance sheet at site level, although it is possible to split certain elements, for example, fixed assets. We will present the summary of the forecast fixed assets and funding below.
Table 5.3 Balance sheet (2012/13 and 2013/14):

<table>
<thead>
<tr>
<th>Balance sheet</th>
<th>FY13 £m</th>
<th>FY14 £m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS, NON CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property, Plant and Equipment and intangible assets</td>
<td>233.1</td>
<td>256.8</td>
</tr>
<tr>
<td>Trade and Other Receivables, Non-current</td>
<td>6.6</td>
<td>7.3</td>
</tr>
<tr>
<td>Other Assets, Non-Current</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Assets, Non-Current, Total</strong></td>
<td>239.7</td>
<td>264.1</td>
</tr>
<tr>
<td><strong>ASSETS, CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventories</td>
<td>3.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Trade Receivables, Current</td>
<td>20.4</td>
<td>26.8</td>
</tr>
<tr>
<td>Cash and Cash Equivalents</td>
<td>6.9</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Assets, Current, Total</strong></td>
<td>31.2</td>
<td>32.5</td>
</tr>
<tr>
<td><strong>ASSETS, TOTAL</strong></td>
<td>270.9</td>
<td>296.6</td>
</tr>
<tr>
<td><strong>LIABILITIES, CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade and Other Payables, Current</td>
<td>(29.4)</td>
<td>(38.1)</td>
</tr>
<tr>
<td>Provisions, Current</td>
<td>(9.1)</td>
<td>(2.9)</td>
</tr>
<tr>
<td>Borrowings</td>
<td>(6.4)</td>
<td>(6.7)</td>
</tr>
<tr>
<td><strong>Liabilities, Current, Total</strong></td>
<td>(45.0)</td>
<td>(47.7)</td>
</tr>
<tr>
<td><strong>NET CURRENT ASSETS (LIABILITIES)</strong></td>
<td>(13.8)</td>
<td>(15.2)</td>
</tr>
<tr>
<td><strong>LIABILITIES, NON CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provisions, Non-Current</td>
<td>(4.1)</td>
<td>(3.8)</td>
</tr>
<tr>
<td>Borrowings</td>
<td>(34.5)</td>
<td>(33.0)</td>
</tr>
<tr>
<td><strong>Liabilities, Non-Current</strong></td>
<td>(38.6)</td>
<td>(36.8)</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS EMPLOYED</strong></td>
<td>187.4</td>
<td>212.1</td>
</tr>
<tr>
<td><strong>TAXPAYERS’ EQUITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public dividend capital</td>
<td>119.1</td>
<td>142.6</td>
</tr>
<tr>
<td>Retained Earnings (Accumulated Losses)</td>
<td>(28.1)</td>
<td>(44.2)</td>
</tr>
<tr>
<td>Revaluation reserve</td>
<td>96.4</td>
<td>113.7</td>
</tr>
<tr>
<td><strong>TOTAL TAXPAYERS EQUITY</strong></td>
<td>187.3</td>
<td>212.1</td>
</tr>
<tr>
<td><strong>Balance sheet check</strong></td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The above balance sheet is pre-transaction and before any transaction funding. As part of the transaction, the historic net current liabilities have been fully funded through permanent PDC and cash support at 1st July 2014. As such the trust has inherited a liability-free balance sheet which has non-current assets, nil net current assets/liabilities and minimal non-current liabilities (most of the non-current liabilities relate to the Barnet PFI).

5.4 Methodology for forecasting the Chase Farm activity and Statement of Comprehensive Income

This methodology is consistent with the approach used for the BCF transaction LTFM.

The activity brief represents the current Chase Farm activity in FY15, with annual growth of 2% per year, overlaid with some internal transfers from Barnet in FY19 (assumed to take place once the new build is fully operational). The majority of the transferring activity is non-complex/non-paediatric elective inpatient/daycase activity in addition to all endoscopy activity from other sites.
Activity was then allocated tariff (PbR and local prices, making assumptions on deflation over the period) to establish a 5 year income plan.

A financial model has been developed to cost the activity defined above through a bottom up costing approach derived through clinical and operational engagement during the design of the future clinical models, for each of the sixteen clinical work streams:

- Rehabilitation and Stroke Rehabilitation
- PITU and haematology/oncology
- UCC
- OPAU
- PAU
- in-patient elective (surgical)
- daycase elective
- theatres
- HDU
- endoscopy
- out-patients (including first, follow up and procedures)
- phlebotomy
- physiotherapy MSK
- imaging
- pathology
- pharmacy
- estates

Clinical non-pay costs are derived through marginal cost analysis as activity changes. In addition, the trust has then modelled estate costs, corporate overheads and capital charges separately.
5.5 Key assumptions

5.5.1 Income

5.5.2 Expenditure

5.5.3 Cost improvement target

5.5.4 Balance sheet, capital investment and cashflow

See section 5.7 and 5.8 below

5.5.5 Transitional support

Table 5.4 Transitional funding
5.6 Forecast income and expenditure account (FY16-FY19)

Table 5.5 Forecast I&E account

Table 5.6 Transitional and recurrent income

Table 5.7 Capital charges
Cost saving improvements

Table 5.8 QIPP and cost saving

5.7 Impact of activity transfer on Barnet Hospital

5.8 Impact on statement of financial position

Table 5.9 Non-current assets (5 years)

- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Table 5.10 Capital investment required for preferred option
5.9 Financing of capital

Table 5.11 Financing of capital investment

Table 5.12 Financing of reduced capital cost

5.10 Impact on continuity of services risk rating

5.11 Impact on statement of cash flows

5.12 Impairment
5.13 Risk assessment

There are a number of key risks that will need to be addressed in order to ensure a financially viable solution.

These comprise:

- An affordable capital funding solution needs to be agreed, as the trust does not have the long term capacity to take on significant debt;
- the construction timeline (and therefore revenue savings) remains on track and within budget;
- activity flows remain consistent with modelling assumptions;
- national tariff and inflation assumptions are expected to be consistent over the planning period with no material changes;
- full delivery of the CIP programme xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx;
- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
- likely decant costs and double running costs have not been modelled at this stage as the likely cost implications are currently unknown. These would be non-recurrent in nature.

Detailed sensitivity analysis will be completed as part of the FBC process with associated mitigations.
6. Commercial case

This case describes the commercial arrangements that the trust plans to put into place to deliver and respond to the required works.

6.1 Procurement of built solution

6.1.1 Procurement options

The trust commissioned external advisors Turner and Townsend to conduct a review of procurement options for the redevelopment. An evaluation workshop was undertaken with members of the project team and facilitated by the procurement advisors, in which key drivers were identified and options scored out of 10 against each driver. The options evaluated were traditional, single and two-stage design and build, construction management and ProCure21+ (P21+). Subsequently, the “Improvement and Efficiency South East” (IESE) and SCAPE frameworks and PFI were scored by the trust’s procurement advisers. LIFT was discounted as it was established for the delivery of primary care facilities, and the discontinuation of PCTs gives it a level of uncertainty. The outcome of this scoring process is shown below:

<table>
<thead>
<tr>
<th>Key Criteria / Options</th>
<th>Traditional Lump sum</th>
<th>Single Stage D+B</th>
<th>Two Stage D+B</th>
<th>Construction Management</th>
<th>P21+</th>
<th>IESE</th>
<th>SCAPE</th>
<th>PFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early start on site</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Cost Certainty</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Retention of design control</td>
<td>8</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Early contractor input</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Programme certainty</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Single contract link</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Ability to control limit change</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Overall link profile</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Quality of end product</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Competitiveness of tender prices</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Certainty of out turn lost</td>
<td>5</td>
<td>8</td>
<td>7</td>
<td>2</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66</strong></td>
<td><strong>92</strong></td>
<td><strong>78</strong></td>
<td><strong>54</strong></td>
<td><strong>96</strong></td>
<td><strong>95</strong></td>
<td><strong>95</strong></td>
<td><strong>96</strong></td>
</tr>
</tbody>
</table>

Note: each criterion has a maximum score of 10 providing an overall maximum of 110

This scoring process identified three options which scored similarly highly: the P21+, IESE and SCAPE frameworks. In addition to the above criteria, the time impact of the main procurement routes was evaluated. It was established that the utilisation of existing frameworks is the only option which will

101
meet the trust’s delivery programme. A comparison of procurement programmes for a partnering arrangement, appointing a contractor through OJEU and PFI is shown below:

Figure 6.1 Time impact of alternative procurement routes

Following the conclusion that a framework would enable the key objectives of delivering in a tight timescale for the redevelopment, the frameworks available to the trust were reviewed. The selection of P21+ was based on the fact that this is a nationally agreed framework, and captures the greatest breadth of contractor experience in its contractor shortlist. The full report is attached at appendix 6A, along with an additional detailed analysis on the merits of P21+ and PFI at appendix 6B.

6.1.2 Benefits of ProCure21+

ProCure21+ (P21+) is a framework provided by the Department of Health for the procurement, development and refurbishment of NHS facilities. A Principal Supply Chain Partner (PSCP) will be appointed for detailed design development, FBC and construction. This procurement route has the following advantages:

- the process provides a guaranteed maximum price (GMP), providing considerable cost certainty
- consistent with Government policy, the Public Contract Regulations 2006 and 2009, the National Audit Office guidance on use of centralised frameworks and the OGC Common Minimum Standards
- better design decisions due to integrated approach, collaborative working and experience and expertise of PSCPs
- embedded flexibility of approach
- defect free delivery
• risks are apportioned by agreement to the party most appropriate to carry the financial consequences
• improved buildability and innovation in design due to Design-and-Build arrangement
• not privately funded – private funding not required as significant capital receipts will be generated from land sales
• auditability due to open book accounting with clear demonstration of actual costs and full access to accounting systems and payroll as required
• PSCP fees – detailed activity schedules and benchmarked against previous projects
• involvement of key subcontractors
• implementation and transparency of process and regular reporting to enable informed financial decisions.

The CFH programme board agreed to proceed with P21+ on 16 October 2014. The costs and programme in this OBC are therefore based upon this procurement route.

6.1.3 Process

The High Level Information Pack (HLIP) was issued to Department of Health approved framework suppliers on 10 November 2014. A PSCP has been selected on the basis of responses and interviews. The trust will formally appoint the PSCP in February 2015 to develop detailed designs and a GMP. Key dates are shown in the table below:

<table>
<thead>
<tr>
<th>task</th>
<th>date</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLIP issued</td>
<td>10/11/14</td>
</tr>
<tr>
<td>deadline for PSCP Expressions of Interest</td>
<td>24/11/14</td>
</tr>
<tr>
<td>trust shortlisting process</td>
<td>26/11/14</td>
</tr>
<tr>
<td>trust open day</td>
<td>03/12/14</td>
</tr>
<tr>
<td>formal interviews, scoring and final selection</td>
<td>08/11/14</td>
</tr>
<tr>
<td>trust board approval to appoint PSCP</td>
<td>11/12/14</td>
</tr>
<tr>
<td>approval of stage 3 design fees</td>
<td>February 2015</td>
</tr>
<tr>
<td>agreement of not to exceed GMP</td>
<td>August 2015</td>
</tr>
<tr>
<td>FBC trust board approval</td>
<td>September 2015</td>
</tr>
<tr>
<td>final GMP to be agreed</td>
<td>November/December 2015</td>
</tr>
<tr>
<td>main construction contract awarded</td>
<td>December 2015</td>
</tr>
<tr>
<td>building works commence</td>
<td>January 2016</td>
</tr>
</tbody>
</table>

The project team has experience in P21+ and has identified sufficient resource to complete the process. A project manager, supervisor, clerk of works and cost manager will all be externally appointed.

An assessment of market interest is located in appendix 6C. Further market testing and engagement with construction delivery partners is being undertaken as part of the procurement process.
6.1.4 Government construction strategy

The Government Construction Strategy issued in May 2011 states the need for ‘designers and constructors to work together to develop an integrated solution that best meets the required outcome’ and for ‘contractors to engage key members of their supply chain in the design process where their contribution creates value’. The paper also further validates the approach for frameworks whilst assessing the effectiveness of exiting arrangements. Other key elements of the strategy outline the need for incentivising cost and programme efficiency via pain and gain share, encouraging off site fabrication and genuine integration of tier 1 supply chain partners. These are most effectively delivered via a well structured framework environment. It also highlights the need for an integrated approach, engaging supply chains and incentivisation. This has been considered fully in the procurement review in order to maximise the benefit to the trust in relation to the procurement approach and it has been highlighted how value for money will be enhanced.

The approach and procurement strategy has been written with a key driver ‘to obtain the best possible value for money (VfM) from the market place that is compliant to an agreed and signed off design’ whilst recognising that best value is derived through a combination of the following criteria:

- design robustness
- purchase and installation cost
- build quality
- lasting quality
- ability to commission
- ease and cost of maintenance
- adaptability in future use
- effect on delivery programme

The PSCP will work closely with the designers and the trust’s project manager and cost advisor providing full visibility to achieve and demonstrate the very best possible value for money from the market place. At agreed stages within the tendering process the PSCP will provide all the necessary information that will assist the trust’s project manager and cost advisor to fully review, consider and provide where necessary any input to ensure that every aspect of that package is audited and verified for technical compliance, affordability and best value for money.

6.1.5 Benchmarking

Package returns will be competitively tendered and each package will be benchmarked against similar recently completed projects to provide comparisons and validate the commercial offer. The project costs will be compared to other healthcare projects via data collated via the national framework. This will give the trust some assurance about the commercial and programme offer to complete the Chase Farm project.
6.1.6 Government Soft Landing and Building Information Modelling (BIM)

All publicly procured projects are by 2016 required to deliver projects using Building Information Modelling (BIM). This will enable multiple benefits in quality of buildings and efficiency of delivery including reduced waste, better clash detection, more coordinated design, clarity of stakeholder and end user sign off, ease of programming, phasing, and potential for asset management. All of the PSCPs on the P21+ framework have worked with BIM and their Principal Supply Chain Members (PSCM) are familiar with delivering via BIM compliant software. There is potential to integrate within the BIM model Government Soft Landings (GSL), which in essence enhances post completion operational efficiency by effective handover, training, monitoring and aftercare from the designers and contractors. GSL is an approach that should be adopted to improve the building operational efficiency, and with the aspiration of including GSL within the BIM model, this will improve methods of working. Importantly both BIM and GSL will facilitate higher quality buildings and ensure we get the best out of our estate.

6.2 Key commercial and legal issues

6.2.1 Construction contract

The construction work will be completed under an NEC3 Option C contract, in line with standard P21+ procedure. It is not anticipated that there will be any non standard legal issues.

6.2.2 Vacant possession

There are a number of 3rd party occupiers on site, some of whom occupy under a current or expired lease and some under informal service level or service contract agreements. All of these are being actively managed. They will transfer into the new facility or be discontinued. These are referred to in the vacant possession and legal interest management strategy at appendix 6H.

6.2.3 Legal title issues

There are a number of legal interest issues on the site. There are none that have material impact or that have not already been mitigated. An overview is contained in the vacant possession and legal interest management strategy at appendix 6H.

6.2.4 Commercial issues

The main commercial issues associated with the programme relate to achieving the highest value of receipt for the land. These are documented in the disposal strategy and red book valuations which have been prepared by specialists in this field. These are attached at appendix 6F and 6G.

6.3 IM&T
As part of the CFH redevelopment, the IM&T Directorate will deliver a range of informatics systems and services that will support the delivery of care that is integrated around the individual patient and which puts the patient at the heart of their care, by:

- putting patients in control of their care;
- giving clinicians the information that is required to deliver the best possible outcomes, whilst ensuring the highest possible levels of patient safety; and
- ensuring that clinical and care data is securely shared with all partners in delivering care, whether these organisations are NHS, social care, voluntary or private sector.

In order to support the redevelopment, the trust has developed a 5 year roadmap (2014-2019) to deliver the following:

- **Cerner First** – The trust has recently exited the National Programme for IT and signed a 10 year contract with Cerner for the provision of its Cerner Millennium Electronic Patient Record system across all sites. The integration of data between Cerner and other systems continues to be a key priority, to ensure that a single, comprehensive electronic clinical record is available across the organization and the wider health economy.

- **Extending clinical facilities** – the trust is in the process of implementing a 5-year plan which includes the introduction of electronic prescribing, capturing real-time data from bedside medical devices in the Cerner Millennium medical record and utilising data captured within medical records to trigger alerts based on patient physiological data and clinically approved protocols.

- **Creating an integrated record across the Health Economy** – the Trust is implementing a Health Information Exchange (HIE) which will enable the Trust to share summary clinical data with partner organisations and to aggregate data provided by these partner organisations within the Cerner Millennium record.

In addition, the following will be implemented as part of the redevelopment in order to support the principles of data sharing and flexible working:

- **Supporting access to systems for clinical staff** – in order to support the site as a paperless hospital, the trust plans to deploy an infrastructure at the Chase Farm site which will be highly secure whilst providing access from all forms of end user devices whether Trust, staff or patient owned devices. Access will be delivered via a high speed, highly available wireless infrastructure, able to support a high density of mobile devices.

- **Supporting patients and carers** – at its most basic level, patients and visitors will be able to connect to high speed public WiFi and access all mobile telephone carriers anywhere within the building. Additionally, patients will be able to interact with the trust’s services digitally thought secure patient portals, electronic appointment scheduling across multiple departments (supporting one-stop attendances), readily available patient-specific information accessible either via the website when offsite or via Trust devices within the hospital and intelligent services to help patient navigating the hospital (inc paying for car parking, checking in for an appointment and navigating the building).

- **Data and analytics** – the trust has invested significantly in its reporting and analytics capabilities and will increasingly make use of more sophisticated analytic tools and
techniques to derive intelligence and insight from the data that is collected in the Trust’s systems. Within the new hospital, real-time operational, clinical and risk data will be available allowing more proactive management of the site, the use of predictive analytics to identify potential ‘hotspots’ and issues, and the use tools, such as simulation, to model and maximise the use of capacity.

The costs of delivering the roadmap, which includes software and rolling refreshment of PCs over 4 years old are encompassed in the ongoing IM&T development programme. Costs of infrastructure and hardware will be covered by the project, and an allowance has been made in the capital costs.

6.4 FM Services

6.4.1 Hard FM

Hard FM services are currently outsourced to Lorne Stewart. It is planned that Hard FM support will continue to be provided through an NHS directly employed team management team managing a contractor/contractors that have been selected via a competitive tendering process.

6.4.2 Soft FM

Soft FM at Chase Farm Hospital is currently fully outsourced to Medirest. The new build operating model will adopt the same model, with all soft FM services being outsourced to a fully integrated soft FM service provider. In July 2014 the soft FM services, in conjunction with the neighbouring Mental Health Trust, market tested their soft FM services, and a 5-year contract was awarded to the incumbent service provider, Medirest.

In anticipation of the redevelopment, a clause has been included in the contract which gives the trust the ability to offer nine months’ notice prior to year four and enter into a revised specification and tender award. In order to provide best value for money during the build period the contract has been bundled by location, so that when areas close down due to service change or redevelopment, the value associated with the identified area reduces accordingly, provided ample notice is provided.

6.5 Equipment strategy

An equipment strategy has been developed by the trust’s equipping advisors, MTS, and is attached at appendix 3I. The objective of the equipping strategy is to ensure that the trust has fully equipped hospital facilities, keeping pace with technological developments whilst also securing best value for money once the development is completed. There is also a need to ensure affordability within the overall capital investment envelope. Consequently, there is a commitment to review and utilise the trust’s existing equipment (medical and non-medical) asset base where possible. The trust also wants to maintain continuous availability of equipment to avoid service disruption.
It identifies the scope and responsibility for equipping and how this will be managed by the Trust during the development of the scheme. It also considers the process that will be followed to identify the options available for the provision of equipment and the programme of tasks and timescales required to complete the process.

The table below shows the summary of the costs for equipment by group.

*Explanation of the equipment groups are provided in the equipment strategy.

The equipment strategy will continue to be developed exploring the procurement options available, accommodating existing equipment and analysing forecasts of future activity taking account of clinical developments and technologies.

### 6.6 Planning consent

#### 6.6.1 Planning strategy – scope and process

The Trust entered into a Planning Performance Agreement (PPA) with LB Enfield, which is designed to promote a more collaborative approach to pre-application planning engagement, and thus facilitate better quality outcomes from larger applications such as this one. The application was submitted following a comprehensive programme of engagement with the local community and stakeholders, and it was supported by a series of detailed technical reports.

An outline planning application was submitted on 21 November 2014 and validated by LB Enfield on 1 December. The application was for the new hospital, up to 500 residential units and a three form entry primary school (Ref: 14/04574/OUT). The application has been submitted on a ‘parameters’ basis, specifying the maximum floorspace and scale of the new buildings, and a master plan showing an indicative final layout. This allows flexibility in the delivery of the final detailed proposals. The suite of planning documents submitted for planning purposes is available to view online at [http://planningandbuildingcontrol.enfield.gov.uk/online-applications](http://planningandbuildingcontrol.enfield.gov.uk/online-applications).

The application indicates areas that are retained for future healthcare expansion. No development is currently proposed on these areas, but this information is submitted to demonstrate that the
hospital will be ‘future proofed’; a concern that had been raised in relation to previous redevelopment proposals for the site.

LB Enfield anticipates that the application will be determined at a Planning Committee scheduled for 12 March 2015.

The trust will then be required to submit ‘reserved matters’ applications detailing the layout, scale and appearance of the new hospital. It will also need to provide the Local Planning Authority with further information regarding any conditions imposed, as well as discharging relevant section 106 obligations.

The Trust will dispose of its interest in those land parcels earmarked for housing development, and is in the process of agreeing Heads of Terms with the Local Education Authority so that the school site is purchased at on an open market value, based on a valuation as residential use. Below shows the proposed site and its use:

*Figure 6.2 Current and future planned use of site*

![Diagram of site use]

Further detail of the pre-application engagement, application form and content, programme, planning conditions and section 106 obligations are contained in the planning strategy report at appendix 6D.

6.6.2 Affordable housing and keyworker units

6.6.3 LB Enfield planning support

A letter of comfort from LB Enfield is provided in appendix 6E.
6.7 Disposal strategy

6.7.1 Disposal strategy and valuation

The disposal strategy has been developed in accordance with Health Building Note 00-08 (October 2014) to achieve best value from the disposal of sites surplus to Trust healthcare requirements and to deliver maximum receipts to fund, in part, the redevelopment of the Chase Farm hospital.

The trust and their advisers have had reference to the following:

**Legal title** – including management of restrictive covenants, tenancies, vacant possession, pre-emption issues

**Planning considerations** – an overview of the planning history, seeking outline parameter planning consent for the proposed hospital, residential and school uses, incorporating the relevant planning law and policy, including addressing, inter alia, heritage issues, viability issues including sensitivity including affordable contribution, S106 and CIL, development of an integrated whole site master plan, the residential element of this informing the valuation and a range of other reports and surveys carried out to support achieving a successful planning approval.

**Valuations** – RICS Red Book Valuation of the disposal parcels including timescales for receipts will provide assurance regarding the value. Valuations have been derived taking into account future residential use including on the proposed school site, on the basis of residual valuation principles including calculations of gross development value with estimates of construction, demolition and infrastructure costs plus site specific costs such as asbestos and remediation. Access to grants, loans and funding to support mitigation of risk associated with potential remediation and decommissioning is being explored through DH, GLA and HCA.

**School site** – the LB of Enfield have confirmed the basis of valuation as residential use. Whilst the master plan submitted for planning purposes reflected a school use on the proposed school site, a wholly residential master plan has been discussed with the planning department. This will inform the open market valuation exercise. Draft Heads of Terms are in circulation and are attached for information annexed to the Disposal Strategy.

**Marketing** – having had regard to the various options for method of sale –for the residential parcels, the chosen route is to openly market via informal tender - for the school site, this is likely to be on the basis of a solus transaction. These methods of sale achieve optimisation of receipt and deliver against the proposed programme. A disposal programme is included in the disposal strategy.

The detail to support the level and timing of receipt expectation and disposal can be found in the Disposal Strategy at appendix 6F, the Red Book Valuations at appendix 6G and the Vacant Possession Strategy at appendix 6H.

6.7.2 Timing and receipt of disposal parcels
The figure below sets out the parcelling of land for disposal.

*Figure 6.3 Parcelling of land for disposal*
7. Management case

This chapter sets out how the trust is managing the programme implementation through planning, procurement, implementation and benefits realisation, into the operational and evaluation phases.

The programme structure has been developed to follow those set out in the NHS Estates Capital Investment Manual\(^2\) and the Treasury ‘Green Book’, supported by the project management disciplines of PRINCE2\(^3\) and Managing Successful Programmes (MSP)\(^4\). The programme will also be subject to Gateway Reviews as described later in this chapter.

7.1 Benefits

Key to the success of the implementation is that the benefits identified by the trust are realised. The overall benefits of the redevelopment have been identified as follows. The redevelopment will:

- facilitate high quality care which supports the achievement of clinical and non-clinical standards;
- increase sustainability to service delivery on site, offering greater reassurance to the community of Enfield and North London about the safe future of Chase Farm site and the importance the NHS strategically places upon it;
- offer improvements to the local community;
- improve patient experience of trust services;
- help the trust to achieve sustainable financial viability after the acquisition of BCF;
- eliminate backlog maintenance;
- achieve land sale disposal receipts for the benefit of service improvement;
- provide flexibility to enable other services to be developed on the site in future;
- improve staff morale, recruitment and retention;
- increase efficiency and productivity; and
- improve the quality of the estate, ensuring fit for purpose accommodation.

The benefits realisation plan is included in appendix 7A and provides details of how each benefit will be measured. These have been identified through a benefits mapping exercise involving key clinical and non-clinical staff. Each benefit has been measured and a responsible owner identified. These individuals will be responsible for ensuring benefits are achieved. Progress will be monitored by the programme team, and the programme board will take appropriate corrective action should delivery be threatened.

\(^2\) ISBN 0 11 321718 8
\(^3\) Project In a Controlled Environment: a structured approach to project management endorsed by the Office for Government Commerce (OGC) as the standard for the conduct of major projects in the public sector
\(^4\) MSP is the de facto standard methodology for delivering programmes in the UK public sector. It is the programme equivalent of PRINCE2 and is owned by the Office of Government Commerce
7.2 Programme governance

The programme governance structure and reporting strategy is set out in the figure below.

Figure 7.1 Programme governance and reporting structure

Key:
- Fortnightly progress reports against project
- Monthly progress reports against programme
- Written report or verbal update as determined by the SRO
- Verbal updates
- Ad-hoc reporting as determined by Programme Director and SRO
The governance structure sets out lines of accountability and reporting for the delivery of the programme.

The **CFH Redevelopment Programme Board** oversees the programme and is chaired by the CEO. It reports to the strategy and investment committee of RFL’s main board. The Operational Steering Group (clinical design and implementation) reports to it, as does the Programme Team.

The **Operational Steering Group** has responsibility to ensure the progress and delivery of the programme, and review and approve the design of clinical services. It is chaired by the former CEO for BCF, a clinician, and now Chief Clinical Information Officer at RFL. Membership includes the Chief Operating Officer, Director of Service Transformation, Divisional Directors, Director of Estates and Capital plus others. This group ensures progress in respect of each of the workstreams shown in yellow on the chart above.

The **Programme Team** coordinates the activities to progress the programme and develop the business cases, ensuring that dependencies and interdependencies between workstreams are identified and addressed. The programme team reviews risks regularly and escalates to the operational steering group.

The five **workstreams** have been established with a senior lead that is responsible for delivering a clear set of terms of reference. These are as follows:

**Table 7.1 Workstreams**

<table>
<thead>
<tr>
<th>workstream</th>
<th>workstream lead</th>
<th>key workstream responsibilities</th>
</tr>
</thead>
</table>
| clinical    | Fiona Jackson - director of integrated care and hospital director - CF | - review and agree functional content; flow diagrams; functional adjacencies  
- identify service models and workforce models for planned changes  
- agree future Chase Farm bed base, day case trolley / recliner base and define the level of acuity.  
- review and agree activity projections by division and also service line  
- review and approve schedules of accommodation  
- review current BEH Chase Farm model of care; patient pathways; site interfaces; clinical synergies and identify any improvements for adopting in CFH redevelopment.  
- identify benefits to service delivery of CFH redevelopment.  
Review options for site development  
- develop and agree innovative solutions for delivery  
- liaise with clinical and non clinical services to identify service requirements  
- identify risks and issues and escalate them if required  
- contribute to communications and engagement plans so that stakeholders are informed and engaged as needed |
<table>
<thead>
<tr>
<th>role</th>
<th>name</th>
<th>responsibilities</th>
</tr>
</thead>
</table>
| workforce | Alastair Mossman – assistant director of workforce | - produce workforce plans that support implementation of proposed workforce changes.  
- ensure that workforce input into finance and activity modelling.  
- identify workforce benefits from CFH redevelopment.  
- ensure that workforce and finance plans are aligned.  
- plan and undertake consultation with staff if required as a result of the redevelopment. |
| stakeholder engagement and communications | Emma Kearney - interim director of corporate affairs and communication | - identify stakeholders and develop a stakeholder engagement plan.  
- ensure that identified organisations, groups and individuals are engaged as plans for Chase Farm Hospital are redeveloped.  
- ensure support from key stakeholders and champion the proposed plans.  
- ensure appropriate communication channels are developed for stakeholders to feedback ideas and concerns, raise issues, ask questions and find out more information.  
- define key communication messages.  
- ensure consistent communication of key messages and that stakeholders are clear about plans and implementation. |
| capital and estates | Andrew Panniker – director capital and estates | - direct all design and construction aspects of the project.  
- produce the schedule of accommodation and drawings for agreement with clinical groups.  
- manage the external advisors in relation to estates, design and procurement.  
- identify preferred procurement route and manage the commercial arrangements with the selected P21+ partner.  
- develop brief for all non-clinical support services in the building  
- provide capital cost and lifecycle estimates for the design and construction works.  
- develop and implement the equipment and IT strategies.  
- ensure a phasing plan is in place that meets clinical and contractor’s requirements.  
- manage the planning application process.  
- plan and manage the land disposals. |
| finance and activity | Kim Fleming – director of planning | - set the Chase Farm finance and activity plan in the context of the trust’s plan.  
- agree planning assumptions based on the trust’s current assumptions but expressed at the site level, ensuring that third parties understand them.  
- document the quantitative basis of the redevelopment, and to reflect that back to the organization.  
- produce a five year activity output (including efficiency |
factors to be applied) and finance model that includes workforce numbers.

- produce the finance case for the OBC and the FBC, and to contribute to the strategic case and the economic case.
- undertake financial and activity analyses for business cases.
- identify financial and activity related benefits from planned service changes.
- develop financial systems and processes within the programme to allocate and monitor expenditure against budget, escalating issues as appropriate.
- manage project level issues and risks and escalate these if required.

Each workstream lead has a nominated deputy and supporting team to support the delivery of responsibilities. The clinical, and capital and estates, workstreams have a particularly large remit and therefore the governance within these workstreams is set out below.

**Clinical workstream governance structure:**

Eleven clinical workstreams are established to develop service plans, workforce models and review/input into design. These meetings are co-ordinated by a core team including programme team personnel, health planners, finance leads and HR business partners.

**Clinical workstream core team**

Chair: Natalie Forrest, Director of Hospital Integration

Co-ordination of clinical workstreams

Fiona Jackson, Director of integrated care and hospital director – Chase Farm

Clinical membership of each clinical workstream includes:

- clinical director or service line lead,
- senior operational manager(s)
- senior nurses / matron.

The meetings are chaired by the head of clinical planning and supported by the health planners and project manager. Sign off of outputs is by the divisional director of operations and the Operational Steering Group.

**Capital and estates workstream governance structure:**

**Key individual roles**

The key roles and responsibilities of the core programme management team are as follows:

**SRO (Senior Responsible Owner) – Gareth Cruddace**
- owns the vision for the project and the supporting business case.
- provides clear leadership and direction throughout the life of the initiative.
- has full responsibility and accountability for the outcome of the programme and realisation of the benefits.
• manages the interface with key senior stakeholders, keeping them engaged and informed.
• maintains the alignment of the programme to the organisation’s strategic direction.
• ensures that the project remains affordable and will improve the quality of care to the target population.
• establishes and ensures that the necessary resource is made available to deliver the schemes.
• liaises with the DH and Treasury to confirm the approvals process.

Programme director – Helen Pickering
• co-ordinates all elements of the programme, shaping the overall programme of work to deliver the agreed objectives.
• monitors progress, resolving issues, mitigating risks and initiating corrective action as appropriate.
• provides an overall monitoring and assurance role across the programme, ensuring that programme level risks and issues and any internal or external dependencies are defined, managed and escalated where appropriate.
• ensures appropriate risk, benefits and stakeholder management frameworks are in place for the programme.
• acts as the day-to-day agent on behalf of the SRO for successful delivery of the initiative.
• owns and reviews the programme plan, communicating impact of any revisions in terms of milestones, timelines and dependencies.
• development of business cases and project documentation.
• ensures that the initiatives and projects that support the delivery of the overall programme are initiated on a consistent basis with governance arrangements that meet requirements.

Project managers – various
• manages allocated project(s) to deliver outputs to the required quality within the agreed time and costs constraints using the agreed project lifecycle approach.
• manages project level issues and risks and escalates as required.
• manages and assures the work of project team members where relevant.
• reports regularly to all relevant individuals and groups using standard reporting processes and templates.

The team has been assembled to ensure the right skill mix is in place and that all team members have relevant experience.

Procure 21+ training is planned for January 2015 to ensure there is appropriate understanding within the trust and the programme team for the management of this process.
7.3 Resourcing strategy

7.3.1 Use of external advisors

The trust has obtained project management, architectural, engineering and technical advisors under a national framework agreement (Shared Business Services Framework) to take forward the project. The external advisors have been contracted to provide the services outlined in table 7.2 below:

<table>
<thead>
<tr>
<th>organisation</th>
<th>role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweett Group</td>
<td>programme management</td>
</tr>
<tr>
<td></td>
<td>business case development</td>
</tr>
<tr>
<td>EC Harris</td>
<td>health planning</td>
</tr>
<tr>
<td>Mace</td>
<td>project management</td>
</tr>
<tr>
<td>Turner &amp; Townsend</td>
<td>cost consultants</td>
</tr>
<tr>
<td></td>
<td>procurement advisors</td>
</tr>
<tr>
<td>PM Devereux</td>
<td>architects</td>
</tr>
<tr>
<td>Aecom</td>
<td>structural advisors</td>
</tr>
<tr>
<td></td>
<td>M&amp;E advisors</td>
</tr>
<tr>
<td></td>
<td>CDM-C</td>
</tr>
<tr>
<td>Montagu Evans</td>
<td>planning advisors</td>
</tr>
<tr>
<td>MTS</td>
<td>equipment advisors</td>
</tr>
</tbody>
</table>

Fees are controlled through a framework agreement and monitored by the capital and estates workstream lead through a schedule of works and programme, reviewed on a monthly basis.

7.3.2 Costs of programme implementation

The schedule attached at appendix 7B contains a full list of all individuals working on the programme direct to or for the trust, with the amount of their time allocated. Forecast expenditure on resources is set out in the table below and the trust is budgeting accordingly.

Expenditure on internal trust staff working on the programme will be capitalized where possible.
Table 7.3 Estimated fee breakdown

| xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
7.4 Programme milestones

A full draft programme for the scheme is included in appendix 7C. This programme will be refined and updated as the project develops. Key milestones are shown in the table below.

<table>
<thead>
<tr>
<th>key milestone</th>
<th>programmed date</th>
</tr>
</thead>
<tbody>
<tr>
<td>outline planning permission submitted</td>
<td>November 2014</td>
</tr>
<tr>
<td>OBC trust board approval</td>
<td>January 2015</td>
</tr>
<tr>
<td>decant/enabling works start on site</td>
<td>Spring 2015</td>
</tr>
<tr>
<td>outline planning approval achieved</td>
<td>March 2015</td>
</tr>
<tr>
<td>reserved matters planning approval submitted</td>
<td>May 2015</td>
</tr>
<tr>
<td>detailed design complete</td>
<td>July 2015</td>
</tr>
<tr>
<td>reserved matters planning approval achieved</td>
<td>August 2015</td>
</tr>
<tr>
<td>trust board approval of FBC, to include ‘not to be exceeded GMP’</td>
<td>September 2015</td>
</tr>
<tr>
<td>final GMP to be agreed</td>
<td>November/December 2015</td>
</tr>
<tr>
<td>main development start on site</td>
<td>January 2016</td>
</tr>
<tr>
<td>new redevelopment operational</td>
<td>Spring 2018</td>
</tr>
<tr>
<td>post project evaluation</td>
<td>Spring 2018 – Spring 2019</td>
</tr>
</tbody>
</table>

In order to allow maximum time for market testing and to ensure the GMP has a high cost certainty, the trust will submit a not to be exceeded GMP with the FBC in September 2015. The GMP will continue to be refined after this point, and a final GMP will be agreed in November/December 2015. The programme plan will be updated between OBC and FBC to reflect this.

RIBA stage 2 will be complete when the OBC is approved, allowing the trust to then sign the stage 3 contract. Stage 3 will be complete once FBC approval is received in December 2015, allowing the Trust to proceed with the stage 4 contract.

7.5 Risk management

7.5.1 Introduction

The objective of the risk assessment is to identify risks to the successful delivery of the programme and determine the contingency sums to be included, as well as identify mitigating actions for the appropriate management of the risk.

The methodology comprised the following stages, each of which is explained in detail in the subsequent sections of this report:

- risk management strategy
- quantitative risk analysis
- OGC Gateway risk potential assessment.
7.5.2 Risk management strategy

The trust’s approach to risk management, in accordance with its own board assurance framework, the Capital Investment Manual and the Treasury Green Book, is designed to ensure that the risks and implementation issues of a change and construction programme of this nature have been identified, weighted, and action plans developed in a risk management plan.

A full risk management strategy has been developed, where risks have been logged and then scored for their probability of occurring and their likely impact in terms of cost and time, which has then generated a risk rating. All risks have a responsible owner and mitigating actions identified. The risks are reviewed regularly to ensure that all reasonably practicable measures have been taken to mitigate them.

The risk management approach for the programme is in accordance with PRINCE II methodology. As described in section 4.8 (economic case), two workshops attended by key trust staff identified and assessed the risks to the project with respect to each of the shortlisted options in accordance with the process shown in the diagram below. Mitigation actions were developed with action owners for each. The risks associated with the preferred option (option 8) continue to be reviewed to monitor the development of risks and implementation of mitigation actions, as well as identifying new risks as they arise. Risk management reports are produced regularly, as detailed in the risk management strategy.

This risk management process will be regularly repeated throughout the programme.

Figure 7.2 – Risk management lifecycle

The highest ‘red’ risks are shown in the table below. All have mitigation plans in place. More detail can be found in the full risk register in appendix 7D.

<table>
<thead>
<tr>
<th>Table 7.5 Top five risks and mitigating actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Description - Causes - Consequences</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Risk that contingency is needed to cover trust change during construction.</td>
</tr>
<tr>
<td>Proximity of risk is c 12 months away however important in the FBC stage for sign off to be fully agreed. Minimise unnecessary change during the construction period by</td>
</tr>
<tr>
<td>Risk that the capital requirement to fulfil the brief is not affordable.</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Risk that the business case for the redevelopment is weakened due to quality and efficiency measures taken before 2018 to improve the disposition and efficiency of services and some environmental improvements at the site</td>
</tr>
<tr>
<td>I&amp;E for the activity brief, workforce model and design solution may not be affordable</td>
</tr>
<tr>
<td>Vacant possession not obtainable on disposal opportunity land parcels, particularly parcel A which contains the existing residential element</td>
</tr>
</tbody>
</table>
7.5.3 Quantitative risk assessment

Details of the quantitative risk assessment have been included within appendices 4G and 4H. Depending on the nature of the risk (capital or revenue), a capital or revenue contingency sum has been estimated for risks and then applied as appropriate as either a capital contingency in the OB forms or in the revenue cash flows in the GEM.

7.5.4 OGC Gateway Risk Potential Assessment

The impact and risks associated with the project were assessed in June 2014 in accordance with the Health Gateway Risk Potential Assessment (RPA) for projects. The assessment, attached in appendix 7E, determined the scheme was high risk, due to the high level of public interest, the high number of expected benefits and because it is a major contributor to the delivery of key strategic targets of the trust.

Accordingly, an external review process has been employed on the programme in the form of a Health Gateway Review.

OGC Gateway review process

The Gateway process examines programmes and projects at key decision points in their lifecycle. It looks ahead to provide assurance that they can progress successfully to the next stage.

Gateway reviews are undertaken at the following points in the development of the Programme at the request of the SRO:

<table>
<thead>
<tr>
<th>OGC Gateway level</th>
<th>Timing</th>
<th>Planned date</th>
</tr>
</thead>
<tbody>
<tr>
<td>level 0 – strategic assessment</td>
<td>at programme initiation</td>
<td>n/a</td>
</tr>
<tr>
<td>level 1 – business justification</td>
<td>SOC / OBC stage</td>
<td>July 2014</td>
</tr>
<tr>
<td>level 2 – delivery strategy</td>
<td>OBC stage</td>
<td>February / March 2015</td>
</tr>
<tr>
<td>level 3 - investment decision</td>
<td>FBC stage before contract awarded to supplier</td>
<td>September / October 2015</td>
</tr>
<tr>
<td>level 4 – readiness for service</td>
<td>prior to start of service</td>
<td>November / December 2017</td>
</tr>
<tr>
<td>level 5 – Operations review and benefits realisation</td>
<td>post start of service to confirm that the service is running smoothly and that benefits are being achieved</td>
<td>Spring / Summer 2018</td>
</tr>
</tbody>
</table>

A Health Gateway Review 1 was carried out from 29-31 July 2014. The primary purpose of a Health Gateway Review 1 (Business justification) is to confirm that the strategic outline case (SOC) is robust – that is, in principle it meets business need, is affordable, achievable with appropriate options explored and likely to achieve value for money.

The review concluded that “the Programme offers the prize of delivering much needed modern elective hospital facilities at Chase Farm and is being progressed by an experienced and committed
team with strong clinical buy in. Nevertheless, there are material risks to be overcome in achieving a financially viable design solution and completing a robust OBC which is likely to be approved, to meet the Trust’s adopted target date of December 2014.” The review team’s major concern was the pace at which the programme was progressing.

As a result the Delivery Confidence Assessment given was ‘Amber Red’ which is defined as “Successful delivery of the project/programme is in doubt with major risks or issues apparent in a number of key areas. Urgent action is needed to ensure these are addressed.” The review team gave four recommendations. These are set out below with the trust’s response to these.

**Table 7.7: Health Gateway 1 recommendation and trust responses**

<table>
<thead>
<tr>
<th>ref. no.</th>
<th>recommendation</th>
<th>timing</th>
<th>trust response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adopt a comprehensive benefits realisation approach for the Programme and carry out a benefits mapping exercise to guide future scheme development and delivery.</td>
<td>do by Nov 14</td>
<td>Completed. Benefits maps produced and included within the benefits strategy. Use benefit maps to inform value engineering options to understand impact on benefit. Completion of detailed benefits realisation plan through extensive discussions with clinicians, public health, workforce, estates etc. Ensure owner of benefits and quantify where possible to ensure realisation of benefits are tracked.</td>
</tr>
<tr>
<td>2</td>
<td>Review and clarify the Risk and Issues management strategy and develop the existing log(s) to provide a more accurate picture of mitigation status.</td>
<td>do by Nov 14</td>
<td>Risk workshop undertaken with wide and senior input. The risk register format has been amended to clearly attribute owners and timescale to mitigating actions and to track progress. Red risks are presented to programme board. Additional resource has been brought in to the programme to help manage.</td>
</tr>
<tr>
<td>3</td>
<td>Develop a detailed plan for completion of an affordable Outline Business Case which delivers validated revenue savings.</td>
<td>now</td>
<td>An Accelerated Learning Event was undertaken on 8/9th October with participation from 130 staff to engage with clinicians and develop detailed, realistic plans for the completion of the OBC. Central to this was the development of service models and workforce models to achieve the necessary revenue savings. Work commenced in the months prior to the event and has continued following to ensure engagement and momentum is maintained. Additional resources have been brought in to manage this intense process and provide the appropriate challenge to ways of working and ensure efficient, “upper quartile” productivity is achieved where possible. Critical path analysis has been undertaken, and aligned with resource requirements to ensure the OBC deadline</td>
</tr>
</tbody>
</table>
4. Prepare and implement a resourced plan for supporting development of robust service brief and workforce information. 

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>will be met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Prepare and implement a resourced plan for supporting development of robust service brief and workforce information.</td>
<td>The Accelerated Learning Event and the preparation in the lead up to this identified the level of additional resource required to develop robust service briefs. Additional health planning support from EC Harris and internal trust personnel has been allocated to the project to manage this process. This includes clinical time, HR support for workforce planning and finance support for revenue modelling. Clinical engagement is now strong for the development of service strategies and viable workforce plans.</td>
</tr>
</tbody>
</table>

A recent review of the Risk Potential Assessment has indicated that the assessment outcome has not materially changed and therefore a Health Gateway 2 ‘Delivery Strategy’ is planned for March 2015.

7.6 Workforce planning

7.6.1 Introduction

The CFH redevelopment offers a golden opportunity to the trust to provide a world class facility for both patients and staff. The redevelopment is firmly in line with the trust’s five governing objectives.

The development of service models and supporting workforce plans has been clinically led and involved a significant number of meetings, engaging with clinicians in the clinical workstreams. The workforce plan builds upon the foundations of the Trust’s existing Workforce and Organisational Development Strategy 2011-2017 and the Workforce and Organisational Development Strategy for the Acquisition of Barnet & Chase Farm Hospitals NHS Trust 2014.

7.6.2 Context

The challenge for clinicians has been looking ahead four years and beyond to anticipate potential changes to the patient pathway, developments in new technology and new ways of working, against a backdrop in the NHS of a requirement to make significant year on year savings and quality improvements.

Some of the workforce changes so far identified have scope to be implemented independent of the redevelopment of the building. Therefore, where it may be of benefit to patients, then certain changes may be made ahead of the building of the new hospital. Other changes are dependent on the new facilities and co-location of services.

As indicated elsewhere, the environment and facilities on site for both patients and staff fall seriously short of what should be expected and the redevelopment offers an excellent opportunity
to address this and make CFH a stronger proposition for the trust both in terms of attracting volumes of patients exercising patient choice, and attracting and retaining staff.

7.6.3 Activity assumptions and rationale driving workforce plans

Table 7.8 Workforce changes

<table>
<thead>
<tr>
<th>Workforce changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

7.6.4 Workforce transformation programme

Strategic framework for workforce planning

The trust’s existing Workforce and Organisational Development Strategy 2011-2017 and the Workforce and Organisational Development Strategy for the Acquisition of Barnet & Chase Farm Hospitals NHS Trust 2014 provides a strategic framework for workforce planning. The trust is currently reviewing and refining its approach to workforce planning and the tools and templates which may support this and recognises that this will significantly help to support the business as it embarks upon the detailed planning and then implementation of the Chase Farm redevelopment and other service developments and changes.

Workforce changes

With a significant lead time to map out precise staffing needs associated with the redevelopment of Chase Farm hospital, there is sufficient time to take a structured and planned approach to the introduction of workforce changes. This will allow the opportunity to engage with staff and the trade unions within the organisation to ensure that consultation on any changes takes place at the earliest opportunity.

New ways of working, skill mix and productivity increases

A range of new roles will be developed to support new ways of working to ensure that the most appropriate people with the most appropriate skill sets are working with our patients. The trust will
continue to build on its approach to values and competency based recruitment to ensure that it recruits the right people, with the right skills and values and develops them for their roles.

Some of the changes will arise from changes to the patient pathway, some from changes to technology and some from a detailed review of skill mix, particularly against the constraints of the scarcity of certain skills and the need to ensure that the availability of those skills is maximised.

Other efficiencies and productivity will be achieved through a continuing focus on consultant and team job planning to ensure that job plans are always up to date and providing maximum benefit for our patients.

Although e-rostering already exists at the BCF sites primarily for nursing and midwifery staff, this is now being rolled out across the whole of the Royal Free more widely and a new and improved version is being introduced now which will give the benefits of better planned and efficient rostas ahead of the development of the new hospital. With the possibility of bank workers also being able to see and book available shifts themselves via an employee online facility, xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx. The trust’s preference will always be to have a low vacancy rate to ensure the highest possible levels of world class, consistent, patient care, but recognises that there is an important and valued role to be played by bank workers too.

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
good delivery vehicle for such learning, will lead to efficiencies, reduce frustrations of staff and free up more time for patient care, whilst continuing to ensure a safe and competent workforce.

The trust believes strongly in the importance of clinically led services and the principle of service line reporting to enhance transparency and accountability for the benefit of our patients. The challenges of redesigning services and planning the move into the new Chase Farm redevelopment will require the trust to have a good supply of clinicians and managers with excellent leadership skills. The trust recognises the value of the NHS Leadership Competency Framework and has a range of offerings, often of a multidisciplinary nature to grow and enhance the leadership capability of the organisation to ensure that it is fit and ready to meet the challenges ahead. As part of this, the trust also has access to coaching support for individuals and teams where a need is identified. The trust will continue to run forums for the top 250 leaders within the organisation to provide a vehicle to generate and reinforce a shared vision and to capitalise on the talent and ideas of the workforce.

**Employee engagement, communication and health and wellbeing**

The trust recognises the importance of employee engagement, communication and health and wellbeing in the success of the organisation. During the lead up to the redevelopment and thereafter, the trust will continue to monitor and respond to feedback obtained both through the annual staff attitude survey and through the Friends and Families tests. The trust will also refresh its Exit Interview Survey to ensure that good intelligence is obtained as to reasons for staff leaving. The trust already has a Staff Engagement and Involvement Plan which is revised on an ongoing basis to ensure relevance and that it addresses any issues identified through the above surveys. This has senior oversight within the organisation and the involvement and commitment of all divisions within the trust.

The trust also has a rolling programme of reviewing the policies of the organisation to ensure that they are all current and fit for purpose. In the lead up to the acquisition of BCF and the period that has followed, more than 19 workforce policies have been considered, reviewed and agreed with Staff Side partners and this cycle will continue.

The trust’s 4 core values of communicating clearly, being positively welcoming, actively respectful and visibly reassuring apply equally to all of our staff, whether they be interacting with patients, staff or visitors.

The development of the new hospital on the Chase Farm site will present a fantastic opportunity to engage staff on the planning of the new hospital and services and the transition, harnessing and building upon the talent and ideas of our staff. Communication will be key and there will be a clear overarching communications strategy.

With regards to health and wellbeing, there should be tangible benefits in the improvement of staff morale as they move from what has largely been a poor working environment into a new modern and purpose built facility. Occupational Health services will continue to be available to staff to
ensure that they are supported around any health issues and access to counselling and other services is currently available via the Trust’s employee assistance programme (EAP).

Staff health will also be addressed by encouraging staff to cycle, run or walk to work by providing showers, lockers and changing facilities in the new redevelopment.

Recruitment and retention

The workforce plans with regards to the Chase Farm redevelopment, will be to minimise the number of vacancies by pro-active and rolling recruitment and to capitalise on the pulling power of a brand new hospital to give it an edge in what is a very competitive recruitment market. From the workforce plans generated by the individual clinical work streams referred to above, it is already clear that there will be challenges to secure the services of certain shortage professions, for example, emergency nurse practitioners, reporting radiographers, stenographers, therapists etc. With the lead time available to the trust, we shall look at targeted recruitment as well as any opportunities to grow our own staff. The trust shall also maintain rolling recruitment campaigns across the board to ensure safe staffing levels are in place at all times.

With regards to retention, the trust will seek to improve on any areas identified for improvement through the annual Staff Survey and Family and Friends tests and by embedding changes through the Staff Engagement and Involvement Plan. This will include looking at flexible working, reducing prevalence of harassment and bullying, having up to date and fit for purpose employment policies, support around season ticket loans, and exploration of options for affordable accommodation. With regards to Chase Farm specifically, the plans currently assume 90 bed spaces will be provided as part of the residential development.

Management of organisational change

Building upon the strong partnership arrangements the trust has with its trade unions, any workforce changes will be consulted on in line with the trust’s agreed Management of Change Policy and sufficient time will be allowed to ensure appropriate notice is given of any changes. Whilst the trust, following the acquisition of BCF has recently adopted a new Management of Change procedure for the new organisation, discussions are currently in progress to agree revised arrangements with regards to protection of earnings arrangements. Formal agreement on these revised arrangements is expected in the very near future and it is anticipated that any such agreement will be less costly to the Trust than existing arrangements, whilst remaining at a level sufficiently high enough to encourage staff affected to remain within the organisation. The Management of Change and Protection of Earnings policies would apply to situations to where
changes to working patterns, including a move to evening and/or weekend working, or different shift systems, were to be introduced, or where, for example, as an alternative to redundancy, a member of staff was moved to a lower banded position.

**Governance for managing the workforce changes**

The Royal Free has a devolved structure which encourages clinically led divisional autonomy, within the trust’s overarching policies, procedures and values.

Each division will be responsible for managing their workforce changes, supported by the Workforce Team.

The CFH Operational Steering Group and Programme Board will have oversight of workforce plans, with ultimate accountability being held by the RFL Trust Board.

### 7.6.5 Transition plan

Clinical workstreams, supported by the OD and workforce teams will build transition plans to ensure that the appropriate workforce is in place both in the lead up to and at the time of the redevelopment to ensure continuity of services and safe patient care at all time. This will also include having in place arrangements, where services may need to be decanted to other areas in the short term whilst building works proceed.

### 7.6.6 Workforce plan development for FBC

The trust is using the opportunity presented by the redevelopment of Chase Farm to develop more efficient workforce plans across all sites. In order to develop these, the HR, finance, integration and IM&T teams will work with clinicians to introduce improvements into the following areas;

- Job planning
- E-rostering
- New roles and skill mix
- IT workflows.

Principles will be agreed through a series of meetings and workshops to design a workforce model which will deliver the trust’s vision for its services in the most efficient way. In addition, these will need to ensure that QIPP targets are delivered and will support sustainable delivery of a 6 day a week service. These principles will be tested to ensure they represent value for money, and will be developed in detail on a departmental basis. This work will be underpinned by a workforce strategy for implementing plans to ensure that efficiency and productivity improvements are delivered as soon as possible.

### 7.6.7 Summary
At the time of this OBC, robust workforce plans, owned by the services themselves, are in place. These will continue to be refined and developed in the context of trust-wide plans, to ensure a successful transition to a new and improved, world class hospital and services on the Chase Farm site.

7.7 Communication and stakeholder engagement strategy

7.7.1 Communication strategy

Section 2.10 sets out the stakeholder engagement undertaken to date. A stakeholder communications and engagement project plan has been developed based upon the following three broad strategic objectives, delivered through a combination of existing and new methods:

1. Ensure there is a robust stakeholder management structure in place for the Chase Farm Hospital redevelopment programme.
2. Develop and nurture relationships with patients, residents and stakeholders so they feel involved, that their contributions are valued and, where possible, will influence us.
3. Ensure appropriate channels are developed to feedback ideas, concerns and issues and that there is robust evaluation of our communication and engagement.

A core narrative forms the backbone of all communications and engagement materials and provides clarity, consistency and reassurance to all stakeholders. It contains the following key messages that are crucial in the success of the plan:

- **The Royal Free London will redevelop Chase Farm Hospital to ensure it delivers care in high quality buildings that provide a safe and pleasant environment for local people.** The current Chase Farm estate is too dispersed, in a poor state of repair and the design of facilities are not suitable for modern healthcare.
- **We know that local people in Enfield are concerned about the future of Chase Farm Hospital and we want to provide assurance that our priority is to provide excellent care closer to patients’ homes.** We want to bring services closer to where people live and work so that they are more accessible and convenient.
- **The Chase Farm Hospital redevelopment is a new and exciting opportunity for existing staff to work in a safer environment with suitable and fit for purpose buildings that helps them provide the care they need for their patients.** The new hospital will also become a more inviting and attractive work environment, this will appeal to a high standard of new recruits and/or staff.
- **We will be actively respectful in minimising disruption during the construction process.** We will communicate and engage with local people about our plans, timescales and approach, wherever we can.
- **Chase Farm Hospital has faced financial challenges for over a decade.** Previous attempts to resolve these difficulties have not succeeded. We need a hospital with a smaller footprint which is safer, more efficient and will provide better value for the taxpayer.
The above are intended to be core key messages which will need to be targeted and tailored for specific stakeholders and for specific circumstances, as well as updated as the programme progresses, the emphasis changes and details of some aspects become clearer.

Communications SWOT analysis

A SWOT analysis has been undertaken to inform the issues that need to be addressed through the stakeholder communications and engagement plan. It highlights:

- General public scepticism about the redevelopment of the site
- A number of challenges to the successful development of the hospital
- Stakeholder support required for the planned changes to take place

The full SWOT analysis is set out in the table below.

Table 7.9 SWOT analysis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local patient and resident support for the new hospital redevelopment</td>
<td>Perception of fewer services being provided on the site</td>
<td>Ability to showcase a new way for hospitals to deliver modern services integrated with other local healthcare services</td>
<td>Financial situation facing the local health economy</td>
</tr>
<tr>
<td>Good reputation of trust set to run the site and services</td>
<td>xxxxxxxxxxxxxxxxxxxxxxxx</td>
<td>Gain public support as the building work commences and work is visible</td>
<td>Local cynicism about the providers of Enfield health services</td>
</tr>
<tr>
<td>Strong political support for the development of planned services</td>
<td>Significant anecdotal cynicism at prospects for improvements</td>
<td>Pathway redesign will put patients first and demonstrate significant increase in the quality of the patient experience</td>
<td>Long term sustainability of hospital that is in deficit</td>
</tr>
<tr>
<td>Good working relationships at various levels between LB Enfield and RFL, and CCGs and RFL</td>
<td>Residual concern at removal of the A&amp;E department as a result of BEH clinical strategy</td>
<td>Evidence that RFL is clinically led, excellently managed and can do difficult things</td>
<td>Challenges to planning consents could delay the building works</td>
</tr>
<tr>
<td>Visible site issues e.g. dispersed site, unfit facilities, provide a strong clinical case for change</td>
<td>Difficulty of explaining complex plans</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Need to displace tenants currently living on site poses reputational risk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.7.2 Stakeholder mapping and segmentation

A stakeholder is considered to be a person, group or organisation with an interest in the development. Stakeholders in the CFH redevelopment programme fall broadly into the following categories:

- clinical leaders
- NHS staff
- public and patients
- health partners
- influencers
- patients’ representatives
- partner trusts

It is neither necessary nor practical to engage with all stakeholders at the same level of intensity. In order to plan for effective and efficient communications and engagement the main stakeholders have been identified and prioritised. By segmenting audiences, the level of engagement they want, their views and their interests can be considered and communications tailored accordingly.

7.7.3 Communications plan

A detailed action plan of timed stakeholder communications and engagement has been developed to run alongside the programme plan and in consultation with the trust’s planning advisors. This is attached at appendix 7F.

The CFH communications and engagement workstream group meets fortnightly and collaborate between meetings to ensure that all communications and engagement are aligned and co-ordinated. A communications log is kept updated to ensure there is a clear record of what communications and engagement has taken place and any learning takes place through evaluation.

All feedback will be used to help steer the content of future communications and engagement as well as determine if there is any resistance to any part of the programme.

7.8 Post project evaluation

The trust is committed to ensuring that a thorough and robust post project evaluation is undertaken at key stages in the process to ensure that positive lessons can be learnt from the project. The lessons learnt will be of benefit to:

- the trust – in using this knowledge for future projects including capital schemes
- other key local stakeholders – to inform their approaches to future major projects
- the NHS more widely – to test whether the policies and procedures which have been used in this procurement were effective

The project will be evaluated by undertaking the following investigations:
• a review of the project implementation to learn lessons for future
• a review of the benefits detailed in the Benefits Realisation Plan and confirmation that they
  have been met
• a review of the FBC capital and revenue costs to confirm that the capital costs were robust
  and adhered to and that the actual and projected revenue costs were realistic.
• a review of the Project Programme and adherence to it throughout the life of the project.

These investigations will focus on the perspectives of service users, staff and the project team, using
questionnaires, stakeholder consultation meetings, staff focus groups and evaluation of data around
the benefits realisation.

The arrangements for the Post Project Evaluation will be established in accordance with best
practice. In addition, as part of the P21+ process, the PSCP must have a number of post contract
activities to aid customer satisfaction and capture learning for future projects. These involve the
activities described below.

• Lessons learned – based on feedback and a workshop arranged for this purpose
• KPI review involving analysis and the collation of a KPI workbook
• Satisfaction surveys will be undertaken and the results issued to the trust

The Trust will identify responsibilities and resource requirements during the FBC development.

7.9 Approvals and letters of support

NHSE and local commissioner support in principle was obtained prior to the acquisition of BCF by RF
in July 2014. The Transaction Agreement stated that the parties agree that substantial capital
expenditure is likely to be required on the Chase Farm site in order to ensure facilities at the Chase
Farm site remain at a reasonable standard and enable greater operating efficiency and therefore
reduce the Chase Farm deficit.

In the development of the OBC, there have been various letters of support and these include:

- Trust Medical Director and Director of Nursing (appendix 2A)
- Chief officer Enfield CCG representing Enfield CCG, East and North Hertfordshire CCG and
  Barnet CCG (appendix 2G)
- Planning officer (LB Enfield) (appendix 6E)