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Whittington Health NHS

Whittington Health Trust Board

The Whittington Hospital NHS Trust
Magdala Avenue
London N19 5NF

5th February 2014

Title:	Maternity and Neonatal Outline Business Case		
Agenda item:	**14/023**	**Paper**	**3**
Action requested:	For approval		
Executive Summary:	The purpose of this paper is seek approval for the Maternity and Neonatal Outline Business Case (OBC). The Outline Business Case evidences that there is a compelling case for the Trust to invest £9.997m of strategic capital funding in the redevelopment of Whittington Health's Maternity and Neonatal services. The Trust has identified the following key objectives for this investment: ▪ By April 2016, to improve the quality and safety of the neonatal ITU and HDU facilities. (using Health Building Note (HBN) 09-03, sec 7.15/7.16 as the benchmark). ▪ By April 2016, to build a second, co-located, dedicated obstetric theatre, thereby improving the safety of maternity theatre service provision. ▪ By April 2016, to increase the capacity of the maternity and neonatal services to meet the needs of an anticipated 4,700 deliveries Following consideration of a long list of options, two options were taken forward to the short list for consideration: ▪ Do Minimum option ▪ Refurbishment option The preferred option, (the refurbishment option), would be achieved through a significant refurbishment of the existing unit, with the introduction of a second (co-located) obstetric theatre and the update of the neonatal ITU and HDU facilities. The solution would be delivered by introducing a new build core block alongside the existing buildings, which would enable an increase in the overall footprint of each floor level. It would also allow the joining up of the existing wings, thus creating bigger footprints to provide for the different elements of the maternity and neonatal services. The preferred option has been designed to ensure no decanting is required and to minimise any reduction in activity levels during the implementation phase. A comparison of the possible procurement routes suggest that there are two realistic options available to the Trust, (Detailed Design and Construct: Two Stage Tender and Procure 21+), which will be considered further during the full business case development: Following financial modelling of the preferred option, the project is regarded by the Trust as affordable in real terms at the base case level of 4,707 deliveries. At these levels the incremental costs of the project are covered by incremental income. The OBC details the robust project arrangements that are in place to ensure the delivery of a full business case and subsequent implementation of the project.		

	Following approval by the Trust Board, the OBC will be submitted to the TDA for approval and to gain support to obtain external funding either via an allocation of Public Dividend Capital (PDC) or via a Capital Investment Loan (CIL). Following OBC approval by the TDA, the Trust will be required to prepare a Full Business Case.						
Summary of recommendations:	The Trust Board is asked to: ▪ Approve the Maternity and Neonatal Outline Business Case						
Fit with WH strategy:	Plans for future delivery of Whittington Health maternity and neonatal services in line with Trust Strategy						
Reference to related / other documents:	Whittington Health Clinical Strategy - Transforming Healthcare for Tomorrow Estates Strategy version 12						
Date paper completed:	28th January 2014						
Author name and title:	**Sophie Harrison Assistant Director of Estates and Facilities** **David Norris Finance Lead**		**Director name and title:**		**Lee Martin, Chief Operating Officer** **Friedericke Eben Divisional Director WCF** **Philip Ient Director of Estates and Facilities**		
Date paper seen by EC		**Equality Impact Assessment complete?**	**Yes**	**Risk assessment undertaken?**	**Yes**	**Legal advice received?**	**No**

Whittington Health NHS

Improving Maternity and Neonatal Facilities at The Whittington Hospital

Outline Business Case

January 2014

UCL

UCLPartners
Academic Health Science Partnership

Established as The Whittington Hospital NHS Trust

Chairman: Mr Steve Hitchins Chief Executive: Dr Yi Mien Koh

Whittington Hospital - aerial view from south looking north

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Abbreviations

A&E	Accident and Emergency
AEDET	Achieving Excellence Design Evaluation Toolkit
ALOS	Average Length of Stay
BREEAM	Building Research Establishment Environmental Assessment Method
BR	Benefits Realisation
CCG	Care Commissioning Group
CEO	Chief Executive Officer
CIL	Capital Investment Loan
DH	Department of Health
FBC	Full Business Case
GP	General Practitioner
GPSI	General Practitioner with a Special Interest
HBN	Health Building Note
HDU	High Dependency Unit
I & E	Income and Expenditure
IM&T	Information Management and Technology
ITT	Invitation to Tender
LoS	Length of Stay
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
NICU	Neonatal Intensive Care Unit
OBC	Outline Business Case
OB	Outline Business
OGC	Office of Government Commerce
OJEU	Official Journal of the European Union
OSC	Overview and Scrutiny Committee
PCT	Primary Care Trust
PDC	Public dividend capital
QOF	Quality Outcomes Framework
SID	Strategic Intent Document
SLA	Service Level Agreement
SOC	Strategic Outline Case
UCC	Urgent Care Centre

Glossary

Building Research Establishment Environmental Assessment Method	The Building Research Establishment Environmental Assessment Method (BREEAM) helps construction professionals understand and mitigate the environmental impacts of the developments they design and build. A new scheme was commissioned by the Department of Health and the Welsh Health Estates to replace the existing NEAT (NHS Environmental Assessment Tool). Further information can be found at www.breeam.org.
Benefits Realisation	Benefits Realisation is a process to help to track the realisation of benefits for a programme.
AEDET	Achieving Excellence Design Evaluation Toolkit (AEDET) is a healthcare sector standard, best practice guide for the evaluation of design quality

Forward

Whittington Health is the principle provider of safe, high quality maternity and neonatal services to the women and families from Haringey and Islington and is also the provider of choice for a significant number of women from Barnet, Camden, Enfield and Hackney.

Our maternity service is among the best in England, according to the 2013 National NHS survey[1] coordinated by the Care Quality Commission (CQC) and carried out by Quality Health. Based on 141 responses of mums using the service, the maternity department scored in the top 20 per cent of NHS trusts on 10 of the key questions, with one mum commenting: "I felt my care was as good as it would have been if I had paid for private health care services. Excellent maternity services."

Our level 2 neonatal services also scored well in the Picker survey of parent's experiences, particularly for parameters for care and empathy.

As an integrated care organisation, these services are an essential and integral part of our vision to provide fully integrated healthcare to local people in partnership with GPs, Councils and other local providers, providing the essential beginning of 'joined up healthcare' for the local population.

However, whilst we continue to receive very positive reviews from the women and families who use our services, we recognise that the infrastructure is poor and will soon begin to compromise the provision of the 21st century care that local mothers and babies have come to expect from Whittington Health.

We have listened to our local community and the women and their families who are users and potential users of our services and have used these views to shape our plans. We are fully committed to the continued involvement of our community and the users of our services in shaping the future of our maternity and neonatal services.

This Outline Business Case sets out our plans to ensure that our infrastructure properly supports the continued provision of outstanding services.

Yi Mien Koh
Chief Executive Officer

[1] 2013 National Maternity Survey, WH Management Report, Quality Health

Approvals

This Outline Business Case for improvements to the Maternity and Neonatal facilities at the Whittington Hospital is recommended for approval by:

[insert signature] [insert signature]

Chairman, Whittington Health **Chief Executive, Whittington Health**

Date Date

1 Executive summary

1.1 Introduction

This Outline Business Case (OBC) evidences that there is a compelling case for the Trust to invest £9.997m of strategic capital funding in the redevelopment of Whittington Health's Maternity and Neonatal services.

This Executive Summary provides an outline of the contents of the overall document, describing each section in order.

1.2 Strategic case

Whittington Health is an Integrated Care Organisation (ICO), established in 2011, providing high quality joined up services to local people in partnership with CCG's, GPs, Local Authorities and other local providers. Maternity and neonatal services are an integral part of the ICO, providing the essential beginning of 'joined up healthcare' for the local population.

The Trust has demonstrated consistently good performance in achieving national standards, including the best standardised hospital–level mortality indicators (SHMI) in the country and in 2013 winning the CHKS Top Hospitals programme patient safety award. The quality of the Trust's maternity services has recently been recognised with the Trust performing well in the NHS 2013 Maternity Survey, released in December 2013.

The need to invest in the maternity and neonatal services is driven by the poor quality of the current physical environment and the capacity constraints of the current Labour Ward and obstetric theatre provision.

The evidence and analysis set out in the OBC presents a compelling case that Whittington Health must invest in these services to:

- Address the poor physical environment and space constraints of the neonatal ITU/HDU and Labour Ward. Without this investment, these will become increasingly unacceptable, making it difficult to meet not only the best clinical standards but also patient expectations.
- Improve the quality and safety of obstetric theatre provision by ensuring there is sufficient theatre capacity that is easily accessible from the Labour ward and maternity and neonatal services.
- Create delivery capacity to provide real choice for local women. Currently functioning at the level of 4,000 deliveries annually, the maternity service is operating at the upper bounds of capacity, quality and safety.
- Address the poor quality of staff facilities, which may otherwise impact on the future recruitment and retention of staff in an already competitive labour market.

The Trust has identified the following key objectives for this investment:

- By April 2016, to improve the quality and safety of the neonatal ITU and HDU facilities. (using Health Building Note (HBN) 09-03, sec 7.15/7.16 as the benchmark).
- By April 2016, to build a second, co-located, dedicated obstetric theatre, thereby improving the safety of maternity theatre service provision.
- By April 2016, to increase the capacity of the maternity and neonatal services to meet the needs of an anticipated 4,700 deliveries.

1.3 Economic case

This section of the OBC documents the range of options that have been considered in response to the potential scope identified within section 2.

Following consideration of a long list of options, two options were taken forward to the short list:

- Do Minimum option
- Refurbishment option

The Maternity Steering Board, chaired by Friedericke Eben, Consultant Obstetrician and Divisional Director for the Women, Children and Families Division, recognised that, whilst the "Do Minimum" option of simply continuing with the existing facilities was a viable option for the Trust, it did not address the issues identified in the Case for Change set out in section 2. Therefore the "Refurbishment" option was the preferred option and the Do Minimum option has been used as a baseline comparison.

The preferred option would be achieved through a significant refurbishment of the existing unit with the introduction of a second (co-located) obstetric theatre and the update of the neonatal ITU and HDU facilities to meet modern health building standards to improve privacy and dignity and further improve clinical safety. The solution would be delivered by introducing a new build core block alongside the existing buildings, which would enable an increase in the overall footprint of each floor level. It would also allow the joining up of the existing wings, thus creating bigger footprints to provide for the different elements of the maternity and neonatal services. The preferred option has been designed to ensure no decanting is required and to minimise any reduction in activity levels during the implementation phase.

1.4 Commercial Case

Section 4 sets out an appraisal of the procurement options for the scheme. Following a comparison of the procurement routes there appear to be two realistic options available to the Trust:

- Detailed Design and Construct: Two Stage Tender
- Procure 21+

A decision on the preferred procurement route will be taken at Full Business Case (FBC) stage.

This section also considers other commercial issues, including the implications for procurement of services, approach to sustainability and planning implications.

1.5 Financial case

The Financial case looks at the affordability of the preferred option to the Trust as a whole. The section provides an overview of the Trust's historical performance before looking specifically at the impact of the preferred option on the maternity and neonatal services, and the Trust as a whole.

The design solution, developed by the Trust's advisors BDP, has a capital cost of £ 9.997m. Given that this spend would take place over an 18 month timeframe it cannot be met via the Trust's internal capital resources alone which, although equal to some £9m annually, are subject to many other calls. Therefore the Trust will require a strategic capital investment to be able to carry out the refurbishment.

Having investigated the alternative funding routes it is clear that the grant of further Public Dividend Capital (PDC) would be the most beneficial, but the Trust are aware that this would only be granted in exceptional circumstances. The affordability options proposed in this OBC have therefore assumed that the Trust will take a Capital Investment Loan (CIL) with fixed interest at 3.13 % pa and repayable in equal instalments over 25 years.

The Trust have produced a number of models to identify the level of activity growth that might be achieved once the new facilities have been built. These take account of Haringey CCG and Islington CCG's planning assumption that there is no projected growth in the number of deliveries within the 5 year planning horizon, and that this situation may continue for a period

beyond this. Therefore any activity growth that arises at the Whittington Hospital will come from women choosing to come to the unit instead of choosing other providers in the locality. As such the Trust are at risk that this transfer of activity does not occur in the future.

The Trust regards any position that shows a net surplus of income over expenditure, for the aggregate 5 year LTFM period, as affordable in terms of the Income and Expenditure account. In this case, the additional income derived from increased activity covers the direct and financial costs of completing the refurbishment and in some years will contribute to the cost improvement plans (CIP) that the Trust will have already developed to cover its on-going financial position.

The cash flow position related to the preferred option is considered in conjunction with the funding options to ensure that the proposal is also affordable in cash terms.

The Trust has looked at a number of variants of the preferred option with the following different levels of activity :-

i) Preferred option “Base” case reaching 4,707 deliveries by 2018/19

ii) Preferred option “Low growth” case reaching 4,478 deliveries by 2018/19

iii) Preferred option “High growth” case reaching 5,000 deliveries by 2018/19

Financial models have been produced in both Real (un-inflated) and at Nominal (inflated) terms. When presented in Real terms the financial tables indicate the scale of the long term gain to the Trust of undertaking the Refurbishment, whereas the Nominal tables indicate the level of CIP that would be needed for the Trust to continue to meet its breakeven position.

The project is regarded by the Trust as affordable in Real terms at the Base case level of 4,707 deliveries because at these levels the incremental costs of the project are covered by incremental income.

1.6 Management case

Section 6 of the OBC is the Management Case. This section outlines how the Trust anticipates managing the project implementation through to commissioning and opening, and then on into the operational and post-project evaluation phases.

This details how the Trust proposes to manage the project through a governance regime in accordance with good practice guidance.

Project resourcing, project communications and the approach to change management are described and the section also sets out the methodology for managing risk and the approach used to calculate optimism bias.

The key issues that relate to how the development will affect the Trust’s workforce and the Trust’s approach to workforce planning are identified.

The section concludes with a description of the Benefits Realisation Plan and details how the project will be evaluated in use, to ensure that the identified benefits of the programme schemes are realised.

1.7 Downside case

This section has been included to highlight the issues that the Trust will have to face should the refurbishment not proceed.

Specific concern relates to the real possibility that if no significant and visible improvements in the service facilities are made, there will be a gradual decline in the number of deliveries at the Whittington hospital. This in turn will impact on the financial viability of the maternity service where the reduction in activity is unlikely to be fully matched by a reduction in the operating costs. There would also be an impact on the neonatal service reputation as numbers reduce,

together with a longer term impact on the use of other services within the Trust such as paediatrics.

1.8 Conclusions

This Outline Business Case concludes the following:

- The Trust cannot continue with the existing facilities for maternity and neonatal services.
- Based on the Trust's detailed analysis, only one option meets all the agreed investment criteria.
- That the design solution is highly effective but does not readily allow for any staged build or implementation.
- That the preferred option is affordable, and deliverable within the required budget timescales.

2 Strategic Case

2.1 Introduction

This Outline Business Case (OBC) sets out the case for strategic capital investment in Whittington Health's maternity and neonatal services. This will improve the quality and safety of the environment in which they are provided and enable the continued provision of outstanding services which meet the needs of the local population.

Furthermore, the investment will support the Trust's vision as an Integrated Care Organisation (ICO), to provide joined-up, effective and high quality healthcare across primary, community, intermediate and acute care settings.

This section describes the Trust's existing maternity and neonatal services, the demand for these services, the physical environment from which they are delivered and the current safety and quality concerns associated with those facilities. The analysis undertaken in this OBC has led the Trust to believe that there is a compelling case for change.

In order to deliver safe and high quality services, which meet the NHS Constitution Pledge which states[2]:

> "to ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice,"

the Trust must undertake further investment to address the following:

- By April 2016, to improve the quality and safety of the neonatal ITU and HDU facilities. (using Health Building Note (HBN) 09-03, sec 7.15/7.16 as the benchmark).
- By April 2016, to build a second, co-located, dedicated obstetric theatre, thereby improving the safety of maternity theatre service provision.
- By April 2016, to increase the capacity of the maternity and neonatal services to meet the needs of an anticipated 4,700 deliveries.

2.2 Outline Business case structure

This OBC has been prepared using the agreed standards and format for business cases, as required by the NHS Trust Development Authority's: "Capital Regime and Investment Business Case Approvals Guidance for NHS Trusts".

The approved format is the Five Case Model, which comprises the following key components:

- the **strategic case**. This sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme,
- the **economic case**. This demonstrates that the organisation has selected the choice for investment which best meets the existing and future needs of the service and optimises value for money (VfM),
- the **commercial case**. This outlines the content and structure of the proposed investment,
- the **financial case**. This confirms funding arrangements and affordability and explains any impact on the Balance Sheet of the organisation,
- the **management case**. This demonstrates that the scheme is achievable and can be delivered successfully to cost, time and quality.

[2] The NHS Constitution for England 26 March 2013

2.3 Whittington Health

Whittington Health is an Integrated Care Organisation providing high quality joined up services to local people in partnership with CCG's GPs, Local Authorities and other local providers. Maternity and neonatal services are an integral part of the ICO, providing the essential beginning of 'joined up healthcare' for the local population.

There is a rich history associated with Whittington Health where healthcare services have been provided from the hospital site since 1473. The St Mary's Wing, where the current maternity and neonatal services are provided from, opened in 1900. The hospital became a University Teaching Hospital in 1976 and incorporated the City of London Maternity Hospital in 1983.

Following consolidation of services onto the current main hospital site, there have been significant developments to the site, including:

- 1970s: ED/OP/pathology block (K Block)
- 1980s: Main wards and theatre block (Great Northern Building/L Block)
- 2000s: Day surgery/imaging/wards/UCL facilities (mainly new Build/A Block)

Whittington Health was established in its current form in 2011 following the integration of Haringey and Islington community health and social care services into the Whittington Hospital NHS Trust (the Trust).

The Trust now provides high quality acute, community, social care, maternity and neonatal care and prison health services for a total population of circa 500,000 people. Services are principally provided from the Whittington hospital site, with 329 beds, and from locations in the communities of Haringey and Islington with links to 331GPs in 91 practices.

The Trust generates income of circa £280m and has two main commissioners, Islington (48%) and Haringey (35%) Clinical Commissioning Groups (CCGs), who currently purchase services on the basis of a block contract agreement. Some specialist services such as neonatal activity are commissioned by NHS England.

The Trust employs over 4,000 staff and each year treats 91,000 people in the Emergency Department, delivers 4,000 babies, performs over 900,000 diagnostic tests, has 25,000 out-patient attendances, operates on 18,500 day cases and makes over 600,000 community contacts.

Clinical services are split into three divisions – Integrated Care and Acute Medicine (ICAM), Surgery, Cancer and Diagnostic (SCD), and Women, Children and Families (WCF).

The Trust has historically demonstrated good performance in achieving national standards, including the best standardised hospital–level mortality indicators (SHMI) in the country and year on year improvement in the Care Quality Commission (CQC) in-patient, out-patient and cancer surveys. Particular performance issues arising in 2013/14 in the areas of Referral to Treatment Waiting Times (RTT) and Emergency Department (ED) are being addressed.

In 2013, the Trust won the CHKS Top Hospitals programme patient safety award. This award recognises outstanding performance in providing a safe hospital environment for patients and is based on a range of indicators, including rates of hospital-acquired infections and mortality.

The Trust has achieved its financial targets for the last nine years after adjustments for impairments and the effects of the PFI. The adjusted net annual surplus has increased in recent years. Cost Improvement Plan (CIP) delivery was 100% of the planned target for both 11/12 and 12/13.

The CIP for 2013/14 will not deliver in full due to pressures from RTT and ED performance and over performance against contract. Despite these pressures, Whittington Health expects to achieve all financial targets in 2013/14 without external support.

2.4 Whittington Health clinical strategy and supporting strategies

Whittington Health's vision is to be an outstanding provider of high quality joined up healthcare to local people in partnership with GPs, Councils and local providers.

The Trust has articulated its five year strategy in the document 'Transforming Healthcare for Tomorrow' (Appendix 3) which was approved by the Trust Board in July 2013 following a three month stakeholder 'Listening Exercise' on the Trust's clinical strategy.

The strategy document describes how the Trust is transforming over the next 5 years with the aim of becoming a powerful enabler of improved health outcomes for its local population. The Trust's vision is to be an organisation providing fully joined-up, effective and high quality healthcare across primary, community, intermediate and acute care settings and supporting positive lifestyle changes to improve health and well-being.

The Trust's five strategic goals are to :-

1. Integrate models of care and pathways to meet patient needs,
2. Deliver efficient, affordable and effective services and pathways,
3. Ensure 'no decision about me without me' through excellent patient and community engagement,
4. Change the way we work by building a culture of education, innovation, partnership and continuous improvement, and
5. Improve the health of local people in the community.

The Trust is delivering change through an ambitious transformation programme, of which significant improvements to maternity and neonatal services are only one part.

The clinical strategy is supported by a number of key organisational strategies:

- **Estates Strategy (Draft)**

The Trust's draft Estates Strategy has been developed to support the delivery of the Whittington Health vision through ensuring both the maintenance of a safe and good quality estate for the delivery of services and through targeted support to specific initiatives.

The vision statement for the draft Estate Strategy 2014-18 is:
"To create an estate that provides a safe and effective environment for staff to deliver the right care to patients in the right location at the right time; "*the right space, the right place*"

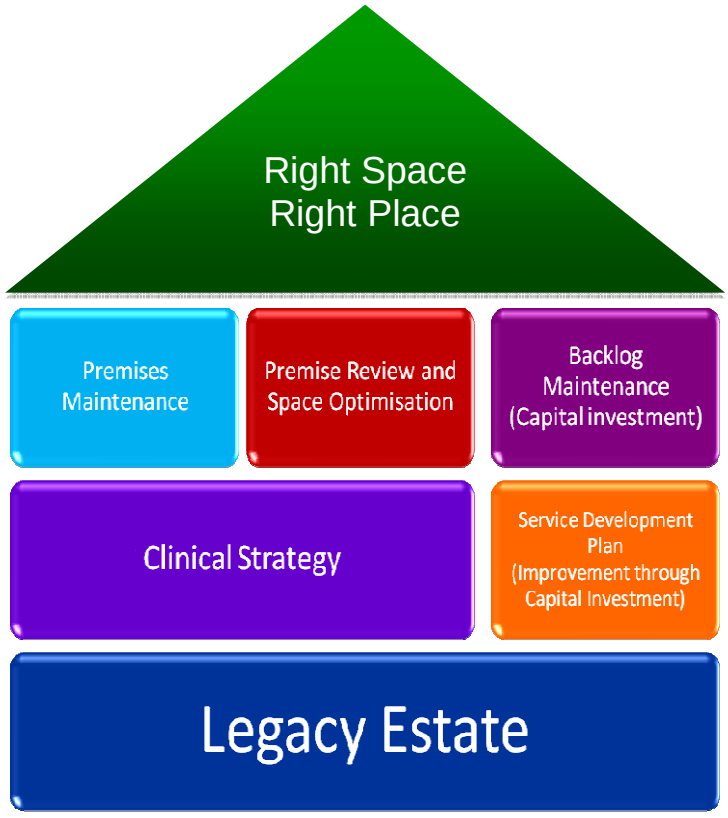
This vision is underpinned by a number of principles:

Function	Principle
Premises	- Patient focused - Compliant with legislation - Available when and where required - Managed to ensure utilisation is optimized 'right space, right place'
Services	- Estate service delivery using proven systems to minimise risk - Compliant with estate and industry standards - Support carbon reduction strategy - Deliver services that are affordable and high quality and meet the needs of staff
Staff	- Access to premises and space that is suitable and sufficient to deliver the clinical or support services they need to, to meet the trust strategic objectives

The delivery of the strategy will transform clinical care and organisational efficiency through:

- Capital investment to reduce and eliminate premises backlog,
- Through the Service Development Plan (SDP) process, to identify estate development needs that are required to support the Trust clinical strategy and the investment needed to deliver them in a timely manner,
- Optimising use of premises to improve estate Key Performance Indicators (KPIs),
- Developing an effective and efficient pan trust hard FM service to ensure that premises are available when they are required for as long as they are required.

The schematic below encapsulates the vision for the creation of the "Right Space. Right Place" integrated care organisation (ICO).



The Estates Strategy describes the major challenge facing the Trust as the need to redevelop legacy maternity accommodation, with this business case being a key element in the Trust's plans to make the necessary transformation.

The Trust estate is described in more detail in section 2.5 below.

- **Quality Strategy**

The purpose of this strategy is to outline the strategic goals for the Trust in providing high quality services for the local population. It supports the broad organisational objectives articulated within the Trust's 5 year Strategy and provides a vehicle for the delivery of the Whittington Health vision, through measurable objective quality goals and metrics.

The strategy identifies three domains of quality as the focus for this aspiration:

- **Providing safe services:** means taking action to reduce harm to patients in the Trust's care and protecting the most vulnerable and it means ensuring that the workforce

receives the right education and training in preparation for the delivery of competent and skilful intervention.

- **Providing effective services:** means providing care that is based upon the best evidence and that produces the best outcomes for patients.
- **Providing the best experience of our services:** means ensuring that the services that the Trust provides are person centred and that people are treated as individuals with dignity, in privacy and with compassion at the right time and in the right place for them.

This business case describes specific areas of concern within maternity and neonatal services relating to the three domains articulated above, including: labour ward capacity; access to obstetric theatres; control of infection in neonatal services; inefficiency of service provision due to poor functional layout and concerns raised by women and their families. The Benefits Realisation plan attached at Appendix 11 details the improvements expected as a result of implementing the proposals set out in this case.

- **Information Technology (IT) Strategy 2013-15**

The Whittington Health IT strategy sets out the Trust's ambitious vision to become one of the first digital organisations in the NHS. The vision statement for the IT Strategy is:

> "To create a digital integrated care organisation that provides secure on-line access to the right information, to the right person, to the right place"

Planned IT capital investment totals £12.3 million for the period 2011-16, with a peak in 2011-12 reflecting the £5 million Department of Health capital awarded for the procurement of the Electronic Patient Record (EPR) system.

The EPR system will become the foundation upon which the digital ICO will be developed. It will provide the strategic platform to integrate patient records across the Trust and enable secure data sharing with external stakeholders e.g. Patients, GPs, and Social Services.

This investment will support the improvements to maternity and neonatal services and is an integral part of the development plans for the services.

- **Workforce Strategy**

The workforce strategy aims to ensure that the Trust's services are outstanding in quality, delivered by empowered, highly skilled and motivated staff providing improved and transformed services to meet the health needs of local people. There are five key guiding principles which inform the way the future workforce is developed:

i Staff have the right skills, knowledge and attitudes to deliver high quality safe services across Whittington Health,

ii Staff are proud to be fully committed and engaged in, and by, Whittington Health,

iii Staff deliver high quality and cost effective services,

iv Staff feel empowered to make decisions and take the associated responsibility, and

v Staff provide effective leadership at all levels.

The workforce strategy is supported by an organisational development plan (OD plan) which presents the rationale for engagement and investment in a co-ordinated programme of people based initiatives to drive change.

This business case describes the need for additional staff and a changing skill mix in maternity and neonatal services. The workforce strategy and associated organisational development plan will support the recruitment, retention and development of staff to deliver excellent services.

2.5 Whittington Health estate

The Trust is transforming from a single-site acute hospital into a multi-site ICO providing seamless care across acute and community services. The transformation is on-going, with the recent transfer of qualifying community properties adding a layer of complexity in determining how best to configure the estate to support the clinical strategy.

The Estates strategy is designed to align the estate with the strategic goals of the transformed organisation in order to help deliver effective high quality services to patients. The strategy identifies the need to:

- Modernise maternity and neonatal accommodation to improve the quality of the patient experiences and allow some limited expansion of capacity,
- Relocate clinical services in the community to provide care closer to home as and when there is evidence that the Trust can sustain the change, and there is evidence that the benefits anticipated can be delivered,
- Re-use space vacated by clinical services to develop new, or expand existing, services, and
- Make intelligent use of non-clinical accommodation to reduce the space used by support administration.

2.5.1 Whittington hospital site

For the purpose of this business case, the main focus is the Whittington hospital site, situated in the London Borough of Islington between Dartmouth Park Hill to the west, Highgate Hill to the east, a primary school to the north and Magdala Avenue to the south (fig 2.1). It occupies a single site of 4.57 hectares between the urban centres of Archway to the south ($^1/_4$ km) and Highgate Village to the north ($^1/_2$ km). The closest underground station is Archway on the Northern Line and numerous bus routes pass or terminate close to the hospital.

The site is densely developed with a mix of Victorian and contemporary hospital buildings. It provides a range of in-patient wards, ambulatory services, emergency department, residential accommodation, administration and other support departments. On the site there is one Grade II listed building, which is used for administration.

Fig 2.1: Whittington Hospital site

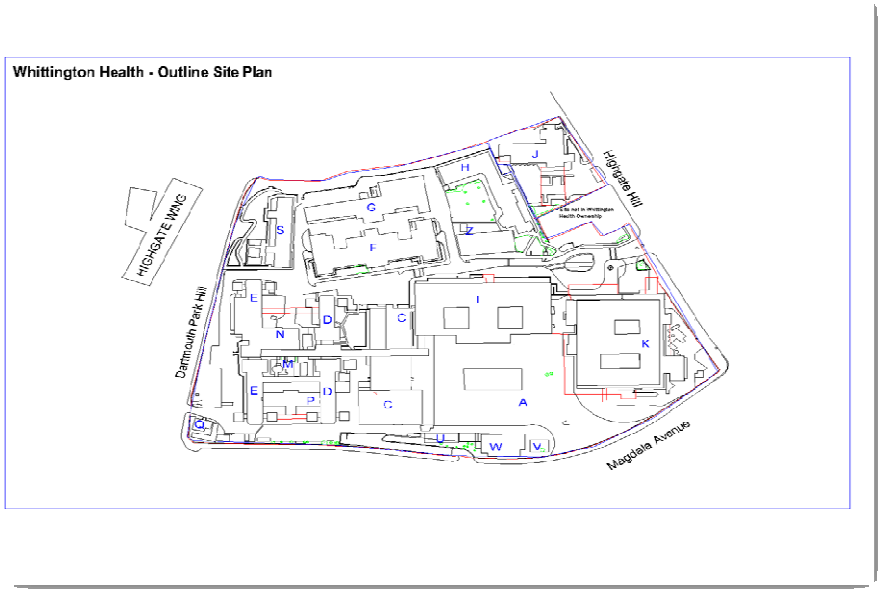


Fig 2.2: Aerial view of the Whittington Site (2007) (from south looking north)

2.5.2 Whittington Health Six Facet survey

The Trust undertakes a regular six facet survey, the most recent completed in 2012/13, to provide up to date information about the condition of both the main hospital site and the other premises that are now part of the Trust's property portfolio. This information is used to inform capital planning.

Table 2.1: Six-facet survey summary data for Whittington Health 2012/13

Category	Performance standard (A-D)* % at 2013 (2012 in brackets)	Cost 2013* (2012 in brackets)
1. Physical condition	A= 0% (16.8%) B= 63.9% (58.1%) B(c) = 14.1% (2.8%) C= 10.0% (22.0%) D= 6.6% (0.2%)	£7.07m (£9.10m)
2. Functional suitability	A= 0.0% (0.4%) B= 89.9% (78.3%) C= 10.1% (20.4%) D= 0.0% (1.0%)	£6.50m (£3.90m)
3. Space Utilisation	Empty= 0.7% (1.3%) Underused= 1.6% (2.3%) Fully Used= 97.2% (95.9%) Overcrowded= 0.6% (0.5%)	£4.40m (£4.40m)
4. Quality of the Environment	A= 0% (0%) B= 97.8% (87.1%) C= 2.2% (12.9%) D= 0% (0%)	£0.45m (£0.07m)
5. Statutory Requirements	A= 0% (0%) B= 90.4% (84.8%) C= 9.6% (15.2%) D= 0% (0%)	£0.36m (£0.42m)
6. Environmental performance	A= 1.3% (1.3%) B= 69.2% (47.6%) C= 29.5% (51.0%) D= 0% (0.2%)	£0.05m (£0.67m)
	Totals	**£18.83m (£18.65m)**

*Key: A = as new; B = sound, operationally safe and exhibits only minor deterioration; C = operational but major repair or replacement will be needed soon, D = runs a serious risk of imminent breakdown

Key messages from the Six-facet survey:

- The majority of the backlog lies in blocks, D, E and K.
- Functional suitability is an issue in blocks D and E.
- The site is shown as well utilised however some areas are used for inappropriate functions (e.g. acute areas used as storage).
- Almost 50% of the estate has an energy performance of B or better.
- J Block (the Waterlow Unit) is impaired.
- Total site backlog estimated to be circa £18m in 2013 (before VAT and costs)
- The functional suitability estimate covers only clinical accommodation for which NHS standards are available as a measure.

Maternity and Neonatal services are mainly provided from D and E blocks which are the areas with the most significant backlog and functional suitability issues.

In the past 5 years the Trust has invested £13m on backlog/legal and statutory improvements and £9.7 million on improvements associated with the delivery of its objectives.

2.6 Maternity Services

2.6.1 Services & model of care

The Trust believes in a truly integrated approach to the maternity care pathway - a 'life course' approach to women's health care offering a more unified and women-centred approach to health promotion, disease prevention and management with implications for long-term, cross-generational gain.[3]

This includes services from pre conception, such as health promotion, gynaecology and sexual health services, right through to antenatal, delivery and postnatal care of women and their babies, and on to health visiting and general paediatrics. The true integration of the Trust's healthcare services, such as sexual health within the early pregnancy diagnostic unit and early access to midwifery care, allows easily available lifestyle and nutritional education and support to women in the reproductive age. The Trust also provides neonatology, health visiting, school nursing and paediatric services. There is a close relationship between maternity services, health visiting and general paediatric services to ensure the provision of integrated care for every child.

The quality of the Trust's maternity services has recently been recognised with the Trust performing well in the NHS 2013 Maternity Survey released in December 2013. Based on 141 responses, women's experiences of the Trust's maternity care showed a major improvement compared to the last survey in 2010. In antenatal and postnatal care, the Trust scored in the top 20 per cent of NHS trusts on nine of the questions asked.

The Trust's model of care for core maternity services is based on ensuring services are delivered to maximise ease of access through the provision of community based midwife services and, where required, consultant-led antenatal care. Re-engaging with local general practitioners and formulating shared care packages for core, and some specialist, pathways is a priority. This is supported by agreement on the roles and responsibilities of the midwives, general practitioners and obstetricians involved in the care of pregnant women. A multi-disciplinary approach, possibly using tele-linked MDT's with general practitioners and/or telephone advice lines will be adopted.

[3] Why should we consider a Life Course Approach To Women's health Care, Scientific Impact paper 27, RCOG

Other key features of the Trust's maternity services are:-

- A choice of delivery options for women

  Including home birth, midwife-delivered care in a dedicated midwifery-led birthing unit and obstetric-led care in the Labour ward.

  Home birth activity levels have remained consistent at 2% for the last 4 years. A 24 hour on-call service is provided to support women who want a homebirth and women are made aware of the options of birth throughout their pregnancy, with home births being actively promoted.

  The development of the midwifery-led birthing unit in 2009 significantly improved the choice of delivery options for women at the Whittington hospital, with circa 15% of deliveries (620 deliveries) projected to take place in the birth centre in 2013/14. Further development of care pathways is increasing the number of births taking place on the birthing unit. Initiatives include: women who are 'low risk inductions' being encouraged to use the birth centre; active birth classes being set up to encourage women to use the birth centre; and work being progressed to reduce c/section rates and therefore increasing potential birth centre and labour ward activity.

- Integration of the Trust's health visiting services with maternity services

  The WH maternity and health visiting services are currently working together to create an integrated pathway for first time pregnant women which will provide consistent and seamless support and care for families. The pathway, currently being piloted, includes: joint midwife, health visiting and children's centre staff meeting for information sharing; joint meetings with GPs; introduction of health promotion guides in the antenatal period by health visitors; joint (midwife and health visitor) appointments for most vulnerable women; the offer of 'Preparation for Birth and Beyond' group sessions facilitated jointly by midwives, health visitors and children's centre staff; new birth assessment; and postnatal promotional guide.

  The Trust is already the leader in London for Family Nurse Partnerships (FNPs) offering a structured support programme to first-time teenage parents in Haringey and Islington and recently winning a tender to provide FNP services in Hackney.

- Inpatient care services

  Providing for antenatal, postnatal and transitional care for those women and babies that need to stay in hospital.

- All Partners are now able to stay overnight

  This improves bonding between fathers and their babies. The service has won the 'Islington Courage Award' and has been viewed as so successful that it is now being rolled out nationally.

- A Consultant Midwife-led obstetric weight and nutrition clinic

  This clinic is prompted by statistics that show obese women have a higher risk of dying in childbirth. The clinic is designed for women with a BMI over 35 at the time of booking, and is run together with a dietician. It is supported by a weight management programme through the public health agenda in Islington and Haringey

- Specialist midwife care for high risk women

  Such as diabetics and vulnerable women in HMP Holloway, ensuring that these women experience their pregnancy as normal as possible, keeping medical intervention to a minimum and providing ambulatory based care, where possible, supported by a dedicated maternity day unit.

- The Trust offers a Female Genital Mutilation (FGM) service

  This service reaches out into the community. Of the women referred to the maternity service, 2.2% were referred to the FGM service in 2012/13 and referrals received from GP's from areas both within London and areas outside London, such as Norfolk, Manchester and Liverpool. Women can access this service pre pregnancy and are also supported throughout pregnancy and delivery. One of the Trust's Somali midwives and the local community leaders regularly present a feature on Somali television in an attempt to change cultural views and practices.

- Responding to the needs of women who choose to deliver at Whittington Health

  The Trust has set up a weekly community antenatal clinic in the Lubavitch centre in Hackney and created a very well received Shabuoth room in the hospital.

Further development plans for the service include:

- Review of emergency caesareans and the creation of a midwifery run Vaginal Birth After Caesarean (VBAC) clinic to reduce caesarean section rates,
- Review of the bereavement services for maternity and the development of an improved service model focussing especially on women with early losses by integrating the Women's Diagnostic and Early Pregnancy Units with the Trust's midwifery services,
- Development of phone apps to share information with women on all aspects of pregnancy and aftercare. Recent consultation with women highlights the need to focus on improved information, dignity and respect,
- Change from hand held maternity records to complete EPR for maternity. Work has started with the Trust's EPR providers (McKesson) to allow web-based links to maternity notes for GP's and health visitors, paediatricians and the safeguarding team. The Trust is keen to implement the electronic red book where possible. This will encourage even greater integration of services, focused on the needs of all local women and children, supported by training and information.
- Increased working with local children centres. The Trust's midwives and health visitors are already placed in all the children centres in Haringey and Islington. The Trust is embracing the public health objective of improving access, particularly for vulnerable women, and is working with paediatric colleagues to focus on the first two years of life.

Set out below is a table showing the existing service facilities.

Table 2.2: Current Maternity Facilities

Community provision	**Children's Centres and Health Centres**
Ambulatory facilities	Antenatal Clinic Maternity Day Unit Triage
Birthing Rooms – Midwifery-led	5
Delivery Rooms – Consultant-led	7 x single rooms 1 x 2 bedded room
Obstetric Theatre (dedicated/co-located	1 3 bedded recovery bay
Main theatre (use of one theatre)	5 sessions per week and also made available 24/7 for obstetric emergencies
Beds	42 (in 2 wards)

The unit presently works to a midwife to birth ratio of 1:28 which is the nationally recognised standard ratio. This compares to the 1:30 ratio that has been adopted across London (See Workforce annex C). The service meets current standards for midwife ratios such as; 1:1

midwife support during labour; and the standards required for Consultant Labour ward presence - currently providing 80 hour obstetric-consultant led care on the Labour ward.

The Trust has an excellent track record in recruiting to midwifery posts and offers good support to staff with the "Supervisor of Midwives" team recently winning the 2013 Supervisor Team of the Year award for London.

2.6.2 Facilities and physical environment

The Trust's hospital based maternity services are delivered from buildings on the west side of the hospital site that were part of the original St Mary's wing which opened in 1900 (Blocks D, E, N and P) and as such the basic building fabric is over 100 years old. The additional obstetric capacity (c/sections and emergency cover) is provided from main theatres in L block which is a considerable distance from the labour ward.

To support the Trust's planning, a consultation was carried out with staff, women, families & carers between April and June 2013, focusing on the maternity services environment (see also 2.6.3, consultation). The key conclusions of the consultation were as follows:

- Women's primary interest is the relationship with staff and consistency in care. Women chose to come back because of the service they experience,
- Cleanliness and an impression of order is important,
- Accessible storage is of high value to staff,
- Lighting is of high value so that staff are supported in their work and women are able to create a more intimate ambience,
- 'Neutral colours' are preferred,
- Women want staff to be happy in their environment,
- Personal, intimate pictures of babies and women are of high value,
- Facilities to go to the toilet, drink and eat and keep children amused are of high value,
- Neither women or staff highlighted a need for a 'wow' factor, more a need for a working, practical environment which engenders a feeling of competency,
- Access is of high value. This includes clear, legible and uniform signage, automatic doors and services that flow between each other, and
- Privacy, the reduction of noise and a sense of calm is very important to women.

The consultation demonstrated that women's primary interest is the relationship with staff and consistency in care. However cleanliness and an impression of order are also important, as is privacy, the reduction of noise and a sense of 'calm'.

Furthermore the physical dislocation of some maternity service elements combined with poor staff facilities creates a more stressful working environment and places additional pressures on staff which can reflect on the rest of the service.

There is significant backlog, (as described in section 2.5), associated with the accommodation in which maternity and neonatal services are provided (mainly D and E Blocks) mainly in relation to condition and functional suitability. For example, the maternity Labour Ward provides poor accommodation for women and families, with no en-suite facilities to the delivery rooms and poor provision for storage both within the rooms and for equipment not in immediate use. Staff facilities are limited, with poor changing facilities, rest facilities and office accommodation,.

Previous capital investment in maternity services has primarily focused on backlog and maintaining existing facilities with only limited piecemeal, opportunistic expansion.

Historical investment has included:

- Development of a Midwifery-led birthing unit
- Relocation of maternity day services and fetal medicine service to vacant ward space
- Upgrade and expansion of antenatal clinic facilities
- Gradual expansion of Women's Diagnostic Unit within existing ward based facilities
- Refurbishment of Labour Ward and theatre (new flooring, new ventilation unit).

The new style Midwifery-led birthing unit opened in 2009 and receives very positive feedback from women and their families.

> 'The birth centre is AMAZING' (Mumsnet[4] 26.02.13)
>
> 'Birth Centre is great. Lovely rooms and birthing pools.' (Mumsnet 26.02.13)

The Birthing Unit sets a benchmark for future development in terms of quality of patient accommodation, with an existing ward footprint being converted to provide individual birthing rooms with en-suite WC/Shower rooms. To enhance the experience of a normal delivery, in-room storage has been configured to enable emergency equipment for women and babies to be stored out of sight but set up ready and immediately available if needed.

The current footprint of D and E Blocks creates significant obstacles to remedying the functional suitability deficits that have been identified in the six-facet survey. The services need larger footprints to: i) enable the provision of neonatal accommodation which meets current Health Building Note standards; ii) provide en-suite facilities; iii) enable the co-location of two dedicated obstetric theatres with Labour Ward (see 2.6.4, access to theatres); iv) allow departmental areas configured in such a way that enables them to be staffed efficiently.

2.6.3 Demand for services

- **Historical demand**

The Trust has experienced a significant increase in demand for its maternity services over the ten year period to 2012/13, resulting in a 26% increase in the number of deliveries.

Table 2.3: Annual deliveries 2002/3 to 2012/13

FY	2002/3	2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	2012/13
Deliveries	3,150	3,402	3,240	3,333	3,532	3,741	3,683	3,936	4,018	3,942	3,986

Fig 2.3: Annual Deliveries, Whittington Health Maternity Services 2002/3 – 2012/13

[4] www.**mumsnet**.com

During the period April to December 2013 there have been 2,911 deliveries, with a projected outturn (based on previous demand patterns) of 3,881 deliveries for the year.

With the average annual number of home birth deliveries remaining constant at circa 90 deliveries per annum over the last 5 years, the vast majority of the increase in delivery activity has been met through more efficient use of the existing Labour Ward delivery rooms, and the development of the Midwifery-led Birthing Unit. This later development, although busy, still has further capacity to provide care especially to low risk mothers.

The Trust provides maternity services to a broad based area served by a number of care Commissioning Groups (CCGs)

Table 2.4: 2012/13 Deliveries by PCT/CCG

	2012/13													
PCT	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total	%
Barnet	34	36	32	36	33	39	32	36	34	39	33	35	419	10.5
Camden	11	8	10	6	10	8	10	9	5	7	6	10	100	2.5
City and Hackney	18	20	13	21	24	18	17	15	25	10	13	12	206	5.2
Enfield	13	22	22	31	31	23	19	23	30	29	20	23	286	7.2
Haringey	128	175	154	159	127	140	137	131	140	124	121	129	1664	41.8
Islington	97	106	86	99	110	101	100	74	83	89	110	74	1129	28.3
Missing				1	2	1	1		1	1	1		8	0.2
Other	12	15	12	17	18	9	16	13	19	20	12	10	173	4.3
Total	313	382	329	370	355	339	332	301	337	319	316	293	3985	100

- **Current Capacity and restrictions on patient choice**

The Trust believes that the maternity service is now operating at the upper limits of its physical capacity. Therefore, to reduce the risk of incidents, keep patients safe, ensure quality of experience and reduce the pressure on staff, the Trust has actively managed the annual delivery rate to circa 4000.

At times when the service is operating at full capacity, women from areas other than Islington and Haringey ('out of area' women) are asked to use other units closer to their home address. This approach is targeted at women who have already had maternity care from other providers and who are after 34 weeks and these women are encouraged to stay with their existing provider. This enables the Trust to meet demand from local women from Islington and Haringey, but restricts the choice for women from neighbouring areas.

Despite being rated among the best maternity units in the country, the Trust has neither proactively advertised its maternity services, or encouraged local GP's to increase their referral rates, in stark contrast to other local providers. This lack of promotion has allowed the service to provide safe, high quality services without the additional pressure that might otherwise have arisen. However, neighbouring providers with high quality facilities are beginning to promote their services more aggressively which could lead to a reduction in demand for WH services.

- **Future demand**

The Trust has established through discussions with local commissioners that future demand for delivery capacity from local population growth is expected to remain fairly static over the next five years. However, there is evidence to suggest that there is a level of demand for the Trust's maternity services which is not being met.

In 2012/13, 4,812 women booked with the Whittington Health maternity service to have their delivery at the Whittington hospital however only 3,986 actually delivered at the Trust – a 17% "drop out" rate (similar to other providers within the north central London area). Although no detailed analysis exists to reconcile this "drop", it is thought that some of it is due to women booking with the Trust but later choosing to have their delivery at an alternative provider for

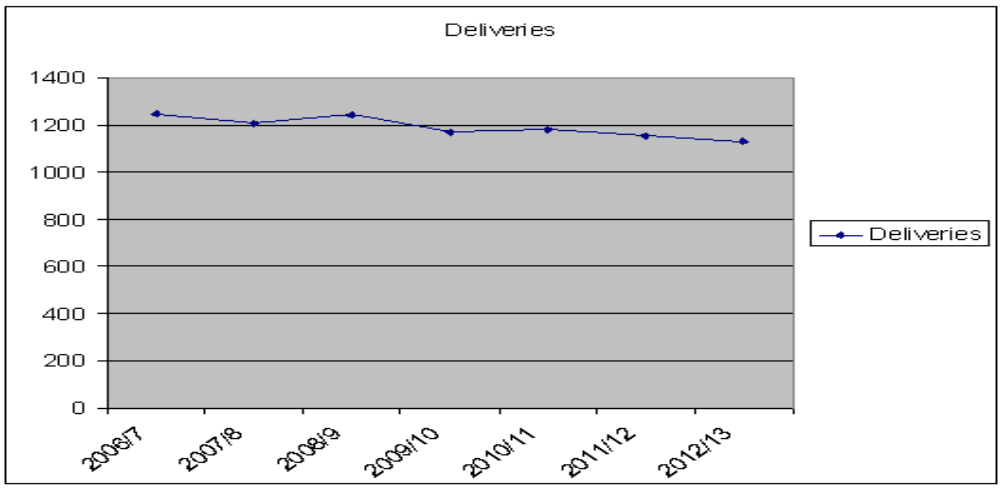
either personal or clinical reasons. Should the Trust decide to act to reduce this “drop out” there would be further demand for deliveries to take place at the Whittington hospital.

Furthermore, analysis of the use of Trust’s maternity services suggests that that a significant number of local women are currently choosing to deliver elsewhere[5]. This can be seen from the map at Fig 2.4 which shows the level of referrals made by the most local GP practices.

Fig 2.4: Percentage of a Practice’s estimated total births per year that are at Whittington

There is some evidence to suggest that the opening of new and/or improved facilities will also influence women and their families when choosing a care provider. The Trust experienced the impact of this following the opening of the new UCLH maternity unit in 2008 when a 10% decrease in Islington maternity delivery activity at Whittington hospital was experienced.

Fig 2.5: Islington Deliveries 2006/7 to 2012/13



[5]Dr Foster’s, Births Apr 2010 – Jan 2013

This is also evidenced more anecdotally through discussion forums, such as Mumsnet, where the quality of facilities is often referenced.

> 'It seems if you want a shiny progressive hospital with lots of checks and you're happy with a big group of midwives go to UCH' (Mumsnet 04.07.13)
>
> I'm going to the Whittington. Had a look around the birth centre at the weekend and it was amazing!' (Mumsnet 05.07.13)

By offering a real choice of high quality facilities, combined with excellent services for local women, and better management of women who book with the Trust, referral levels should significantly increase. Further analysis has been undertaken at GP practice level to assess possible shifts in activity that may take place.

- **Consultation/Engagement**

➢ Wider Community

The extensive stakeholder 'Listening Exercise' conducted by Whittington Health in early 2013 indicated strong support for the Whittington Health maternity services, with a key message being that the service should always remain open, with sufficient capacity to meet the needs of any local women who choose Whittington Health for their maternity service.

➢ Women, families & carers

Further consultation with staff and at least 30 women, families & carers, through a user workshop, and an Local Supervisory Audit (LSA) audit day, took place between April and June 2013 (also referenced in section 2.6.2) and focused on the maternity services environment and patient experiences. The consultation demonstrated that women's primary interest is the relationship with staff and consistency in care. However cleanliness and an impression of order are also important, as is privacy, the reduction of noise and a sense of 'calm'.

The trust also collects regular feedback from a number of sources:

- Complaints and plaudits about the services- specific comments are noted and trends analysed
- Trust wide patient experience systems - allow women to make comments about the service
- National maternity survey, - collected comments from women about the services
- 'Walk Abouts' by the senior midwifery staff, as part of the Trust's 'visible leadership' are carried out regularly and women are asked during these about their experience of the services
- Friends and family testing collects 'free text' which provides additional information.

➢ GPs

Some initial engagement has taken place through the GP representatives on the CCGs and through our Medical Director.

In addition, the Head of Midwifery attended the recent Trust GP engagement meeting to discuss with local GP the draft proposal of the refurbishment. Those who were spoken to were very enthusiastic about the plans.

➢ Further engagement

As part of the detailed design development and service modelling required for the preparation of the Full Business Case, the Trust will further involve local women, families and carers. This will take a number of forms, such as: service user representation on the Steering Board; workshops on particular aspects of the design and service pathways; and use of the Maternity Services Liaison Committee (MSLC).

2.6.4 Quality & safety

The Trust provides high quality maternity services, evidenced by patient feedback, peer review and the meeting of clinical targets.

- **NHS 2013 Maternity Survey**

The recent NHS 2013 Maternity Survey asked women who gave birth in February about their experiences. It was coordinated by the Care Quality Commission (CQC) and carried out by Quality Health.

The Trust's maternity department was rated among the best in England. Based on 141 responses of women using the service, the maternity department scored in the top 20 per cent of NHS trusts on 10 of the key questions. The Trust scored among the top trusts on all four questions for antenatal care, with 91 per cent of mums-to-be saying midwives listened and gave them enough time to discuss their pregnancy. During pregnancy, prospective mums also scored the Trust highly with 96 per cent saying they were spoken to in an easy-to-understand way and 90 per cent confirming they were involved in decisions about their care. For their labour and baby's birth, 96 per cent said a partner, or someone else close to them, was involved in their care as much as they wanted to be.

One mum commented:

"I felt my care was as good as it would have been if had I paid for private health care services. Excellent maternity services."[6]

A mother who had a high risk pregnancy said:

"I loved my labour because of the care I received. Many thanks for such a great service and care."[7]

- **Environmental concerns**

However, the Trust believes that the majority of the environment in which services are provided and the capacity of some key elements of the facilities, need to be upgraded to meet today's NHS standards as they will not meet the NHS Constitution pledge[8] which states

> "to ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice".'

Whilst the Trust currently ensures that there are sufficient safeguards in place to ensure the delivery of safe services, there are two key elements of the maternity services which give significant cause for concern, evidenced by adverse clinical incident data and by reference to HBN guidance. These areas are: access to theatres and Labour Ward facilities.

- **Access to theatres**

The service currently operates with one dedicated obstetric theatre which is co-located with the Labour Ward. However, in order to meet existing activity levels the maternity service also requires the use of a second theatre, predominantly for planned C-sections and for 24/7 emergency back-up. Currently the service uses one of the main hospital theatres which is located on level 2 of L block – this requires a journey to and from Labour Ward along a public corridor and down one level. Whilst the Trust ensures that women are safe, well and appropriately supported when the use of main theatres is required, this journey is unacceptable

[6] NHS 2013 Maternity Survey
[7] NHS 2013 Maternity Survey
[8] The NHS Constitution for England 26 March 2013

as it can delay response times for an emergency situation and can involve a significant loss of privacy and dignity for women in labour. In addition to being an inefficient use of staff resources it is not consistent with the 21st century healthcare the Trust are committed to provide.

Fig 2.6 Access to main theatres from Labour Ward

A review of reported incidents over a 24 month period (2011-2013) identified a number of incidents relating to the use of main theatres as a second obstetric theatre. These included: use of main theatres for an emergency case; use of a third theatre for obstetrics; the transfer of a sick women to Labour ward from main theatre; the transfer of a collapsed neonate to NICU from main theatre; and delays in access to main theatre.

Furthermore, the maternity service has had to work closely with the main theatre team to improve the management of stock and address staffing issues, arising from having split obstetric theatres.

A second, dedicated, co-located with Labour Ward, obstetric theatre would enable the Trust to enhance the safety of its services and better mitigate against the associated risks. It would also significantly improve women's experience of the service with a better recovery environment and access to specialist services if required (e.g. bereavement facilities and neonatal support). It would also enable the more efficient and flexible use of staff between the areas of Labour Ward, theatres and recovery.

- **Labour ward capacity**

The Labour Ward operates at close to capacity which presents particular challenges when there are peaks in demand and has resulted in a number of reported incidents.

The Health Building Note (HBN) schedules[9] for maternity accommodation recommend a ratio of 1 Consultant-led delivery room per 333-357 deliveries and 1 birth centre delivery room to 166-200 deliveries. (The variation in the ratio comes from greater efficiencies as overall unit size increases). The table below sets out the recommended number of rooms when the HBN is applied.

Table 2.5 Number of delivery rooms recommended by HBN

Total Deliveries	Consultant –led Deliveries	Consultant –led delivery rooms	Birth Centre Deliveries	Birth Centre delivery rooms
4,000	3,400	10	600	3 - 4
4,000	3,000	9	1,000	5 - 6
4,700	3,700	10 - 11	1,000	5 - 6

The current service at 4,000 deliveries is operating below the recommended number of consultant-led delivery rooms.

The recent Whittington Health "Listening Exercise" (March to May 2013), sought the views of stakeholders, including local communities, on Whittington Health's clinical strategy and the implications for estates. This showed strong support for the Whittington Health maternity services and in particular the need to meet local demand.

The Trust provides maternity services to a population casemix which has an above average number of women who would be categorised as having complex healthcare needs by comparison to both the London and national averages. This has recently been re-confirmed by an analysis undertaken to inform the implementation of the new tariff arrangements and referred to in the Workforce Annex C to this OBC. The analysis has used the definitions set out in the national maternity tariff, such as: high numbers of diabetic women; social concerns; women over 45; and women from HMP, and used the national categories to calculate the 3 levels of payment for each part of the maternity pathway. With an above average number of high risk women presenting to the Trust's maternity services there is a high and increasing demand for additional care from a range of professional groups and can increase the need for a Consultant-led Labour Ward environment.

Whilst the Midwifery-led "Birthing Unit" has enabled the Trust to meet some of the recent additional demand with respect to deliveries that are regarded as "low" risk it has not been able to relieve the increasing pressure on the unit as a whole.

Following a review of reported clinical incidents in the period August 2011 to July 2013, a number of incidents relating to Labour ward capacity were identified including: delays in transfer to Labour ward; Labour ward full or very busy; babies born elsewhere in the unit due to capacity issues; delays in treatment due to capacity/high activity; a whole unit closure, and unit on amber alert.

[9] Health Building Note 09-02 – Maternity care facilities, 2013

2.7 Neonatal services

2.7.1 Services & model of care

- **Services**

The Trust's Neonatal unit provides level 1 and level 2 neonatal care services for babies who are born at the Whittington hospital. It also provides level 2 care for babies born in adjacent hospitals, (ex-utero transfer) either because they do not offer level 2 care or when those neonatal providers have capacity constraints of their own. For the same reasons the Trust's Labour ward and Neonatal Unit liaise to accept women transferred from other hospitals before their baby is born, where it is thought in advance that the baby may need level 2 neonatal care (in-utero transfer)

The neonatal service operates as an integral part of the North Central London Perinatal Network. Although the North Central and North East Central networks merged in 2013, from a managerial perspective the clinical pathways of each network have not changed. UCLH, Barnet & Chase Farm, the Royal Free and the Whittington operate as a group, with a small amount of overlap with adjacent hospitals to the east, ie. the Homerton and North Middlesex.

These hospitals provide the following level of neonatal care.

Table 2.6 Levels of neonatal care within the North Central London Perinatal Network

Trust	Neonatal Levels of Care
UCLH	1, 2 & 3
Barnet and Chase Farm	1 & 2
Whittington Health	1 & 2
Royal Free	1
Homerton	1, 2 & 3
North Middlesex Hospital	1& 2

In addition, the unit will also take babies who are transferred from other "out of area" networks at times when they themselves are unable to place babies.

Within the remit of Whittington Health there is a pathway of care for local families beginning in maternity and supporting ill newborns in the neonatal intensive care unit. Continuity of care is provided through existing close cooperation with the general paediatric ward; offering a pathway, where complex premature infants graduate to more mature services and link in with early discharge into the care of community based nursing and community services. The pathway is underscored by the development of the "Hospital at Home" service which has been supported by Islington CCG to implement early discharge and reduce admissions of specific conditions that would have traditionally resulted in hospital care. Since the inception of WH the Trust has also developed novel integrated 'hybrid' hospital/community nursing and paediatric consultant posts which allow more efficient continuity of care for those children with neuro-disability.

Child Protection and Safeguarding services, successfully reconfigured following Social Service cuts, provide a novel integrated and cooperative pathway between maternity and paediatrics for vulnerable women and newborns infants

- **Neurodevelopmental Care**

There is a focus on developmental assessment of premature infants at risk of future problems who require targeted care within the Neonatal Unit and subsequent follow up. The Trust offers a comprehensive team, as recommended nationally, including psychologist, physiotherapist, occupational therapist, and trained nursing staff to address neurodevelopment. This level of support is not achieved in all neonatal units. In 2012, the Whittington Health neonatal service, along with its sister neonatal units in North Central London, achieved the highest rate of neurodevelopmental follow up in the country.

- **Training**

The paediatric and neonatal services consistently carry high ratings for teaching and training. Since the inception of Trainee doctor surveys in 2007, Whittington Paediatrics has rated within the first 2- 4 top rated departments and has been a "positive outlier" in all General Medical Council surveys (2010) in categories including: overall satisfaction; local teaching; and educational supervision. In the most recent 2013 survey the Trust was one of the top rated paediatric training units, 1st in London and 8th in UK overall.

2.7.2 Activity and demand for services

The Trust's neonatal inpatient services currently operate at 91% occupancy. Although demand for these services is primarily driven by the level of deliveries within the maternity services, some additional demand comes from other network providers looking to create capacity in their own services by transferring babies to the Trust's level 2 or level 1 cots, both for intensive and high dependency care.

The neonatal unit also acts as a step down service for babies who have been initially cared for in a level 3 unit and who require ongoing high dependency care. It performs this role not only for babies born at less than 27 weeks gestation whose mothers booked at the Whittington hospital, but also those who booked at the Royal Free Hospital who are not yet ready for level 1 (special) care, and for those booked at UCLH for whom the Whittington is the local hospital. Babies born with the most extreme prematurity (23-27 weeks gestation), often need high dependency care for a protracted period of weeks or months, mainly due to chronic lung disease of prematurity. Without the capacity at the Whittington to take these babies, UCLH would not be able to vacate level 3 intensive care cots for new referrals.

Currently, due to capacity issues, the neonatal unit is not always able to accept babies for step down care as promptly as it would want. Furthermore, the parents' stress of the transfer of their baby to a different unit is often added to by the Whittington unit's poor environmental conditions, particular if their previous stay had been in one of the more spacious facilities offered by local level 3 units.

Table 2.7: 2013/14 Neonatal activity levels

	Intensive Care	High Dependency	Special Care Baby Unit
Cot days	683	1,797	5,144

2.7.3 Quality and safety

The Trust provides high quality neonatal services, evidenced by patient feedback, peer review and the meeting of clinical targets.

However, the environment in which neonatal ITU and HDU inpatient services are provided needs upgrading to meet today's NHS standards and to ensure it meets the NHS Constitution pledge, which states:

> 'to ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice.'

As with maternity services, neonatal services are also subject to a number of forms of scrutiny, internally and externally. A review of available evidence, and reference to HBN guidance, suggests that the service is operating in a challenging physical environment.

- **Infection control**

The Neonatal ITU and HDU services are delivered within accommodation built in 1900 that, as activity levels have increased and as modern neonatal incubators and equipment have increased in size, falls below current Health Building Note (HBN) space standards, thus posing a challenge to infection control. The Trust's current ITU and HDU areas regularly accommodate 6 incubators/cots in spaces that should, under present standards, accommodate less than two. Cot centre spacings are presently at 1.6 m – the recommended standard for an ITU cot bay is 4130mm x 3270mm which places cots at just over 4m from cot centre to cot centre. This poses significant physical challenges, squeezing to plug in and fit equipment between cots, alongside chairs for parents to touch and hold and mothers to breastfeed their babies. The space constraints also carry an infection control risk of cross-transfer of micro-organisms from one baby to the next. To address this risk the service currently operates an isolation strategy.

Any baby identified as colonised or infected with a transferable micro-organism such as MRSA, cytomegalovirus (CMV) or a resistant Gram negative organism such as E. Coli, is moved into an isolation cubicle or nursery, where they are cared for 1:1 by a neonatal nurse who does not care for other babies for the entire shift. (Sometimes, babies can be colonised with these organisms on admission, acquired from their mother, or they may be known to have the organism at the time of transfer from another unit.)

This strategy comes at the cost of inefficient use of neonatal nursing staff, as an extra member of staff is required for every shift of a baby's stay, which can be for many weeks. The parents' room in intensive care is also closed at such times, so that parents of babies colonised or infected with a transferable micro-organism, do not inadvertently spread their babies' organism to other parents who could pass it onto their own babies. This further reduces the quality of our parent facilities.

This strategy of isolation, along with extreme vigilance and a close working relationship between Neonatal Senior Nursing and Consultant staff and the Infection Control Team, has proved effective. Over recent years the unit has had a good track record for preventing cross-infection, but it reduces the efficiency of the Neonatal Unit in its ability to accept new babies from other hospitals, as well as increasing nursing costs. This need to isolate would be reduced by adopting current HBN space standards, which significantly reduce the risk of cross-transfer of micro-organisms from one baby to the next.

Fig 2.7: Neonatal ITU and HDU care – existing accommodation

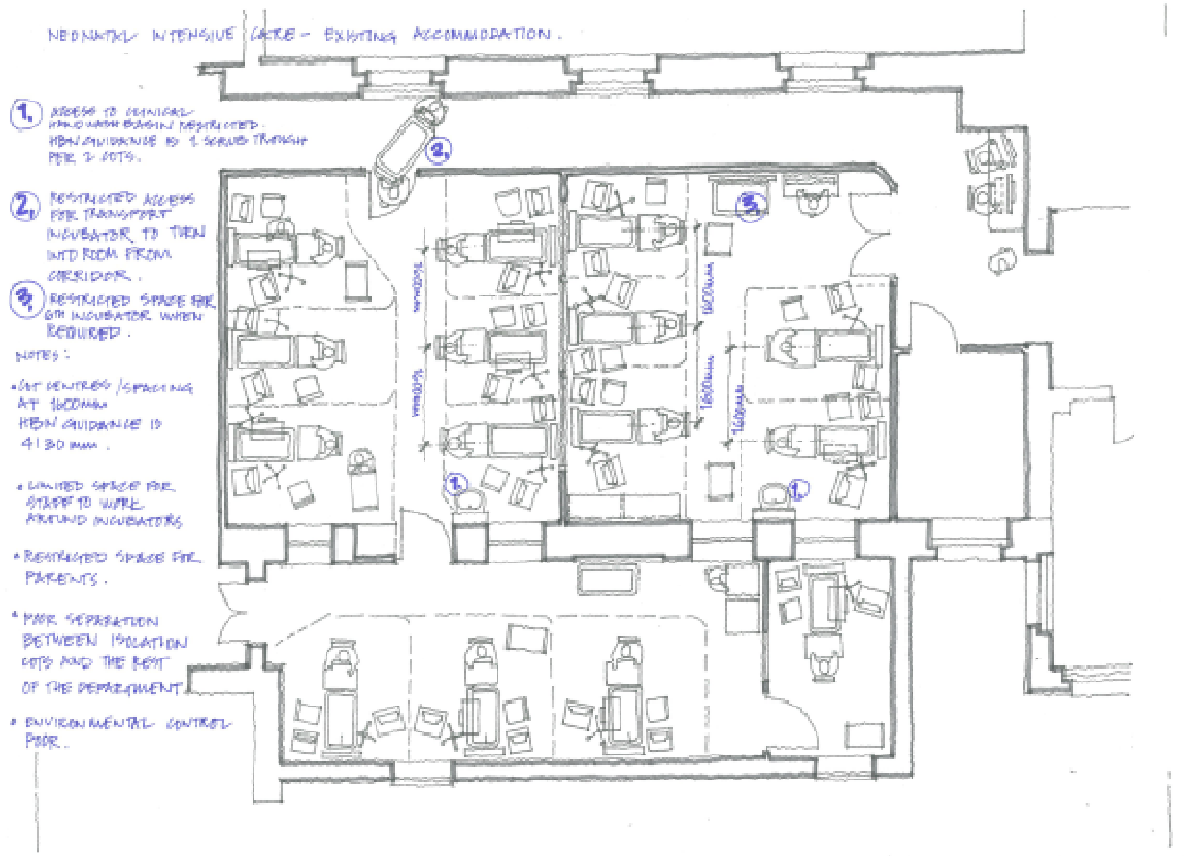
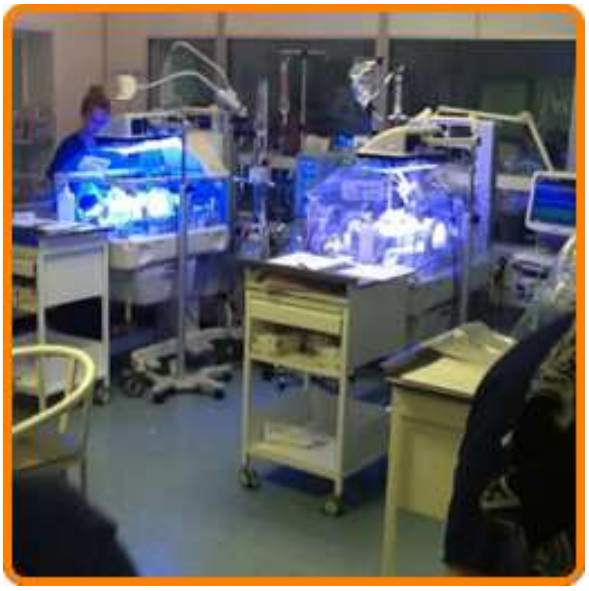
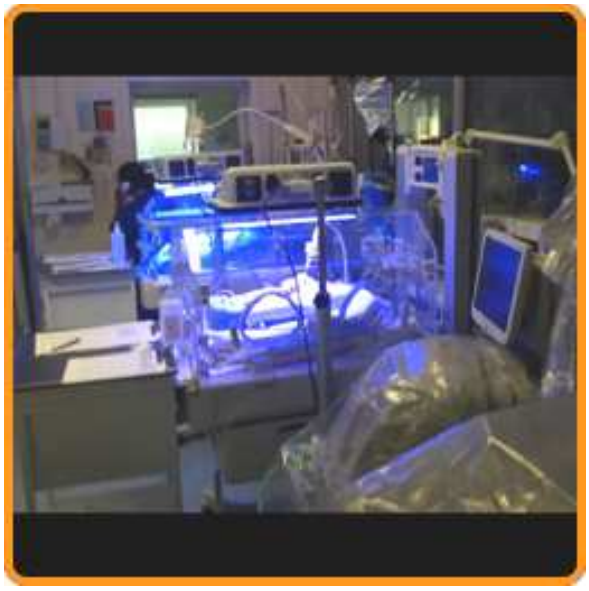


Fig 2.8: Whittington Health Neonatal Unit 2013





2.7.4 Facilities and physical environment

The neonatal unit was established during the late 70's; developed by an enthusiastic paediatrician Dr Max Friedman. The neonatal unit was never purpose built but took over it's current location, modifying an area within the St Mary's Wing adjacent to the maternity service. Funding was obtained for an extension of the neonatal services on the east side in the early 1980's, at a time when the Whittington Hospital was one of the three prominent neonatal units in north London along with the Homerton and University College.

An upgrade and refurbishment of the neonatal unit from its very basic facilities took place in 1994, with the installation of piped oxygen and air, replacement of ceilings, divisions and lighting. At that time neonatal units accepted both in and ex-utero transfers, and cared for infants of all gestations.

Neonatal care is currently provided on the Whittington hospital site from two separate ward locations, on two different floor levels: ITU and HDU care (11 cots) on level 3, D Block North; and SCBU (12 cots) on level 4 D Block North. The SCBU was established in 2007 (in the vacated adult critical care unit) and also has 3 overnight stay rooms for women to spend time with their babies preparing to take them home.

As described above, previous investment in neonatal services has primarily focused on maintaining existing facilities with some piecemeal, opportunistic expansion, including the creation of the separate SCBU to enable the neonatal service to meet increased demand. Consequently, the ITU and HDU elements of the service remain in poor accommodation and there is an overall configuration of inpatient neonatal services on two different floor levels that is inefficient. See impact on quality and safety described in 2.7.3 above.

In addition to the fundamental issue of cot spacings described above, control of the environmental conditions within the ITU/HDU unit is poor in relation to temperature and ventilation. Periods of hot weather can create difficult working conditions for staff and unpleasant conditions for babies and parents.

There is also a deficit of core support accommodation on the unit such as: a minor procedures room, an adequate room for expressing breast milk and sufficient numbers of hand washing sinks and safe and clean storage areas.

A number of recent reviews have further highlighted concerns with the physical environment:

- Perinatal Network Appraisal

The Whittington Health neonatal services were recently appraised as part of the North Central London Perinatal Network Appraisal. The network is made up of six units: UCLH; GOSH; Barnet; Whittington; Royal Free; Chase Farm

The report contained a number of items specific to the Whittington services, including the following strengths:

- Support for junior medical staff on NNU
- "a happy place to work"
- Teaching for junior medical staff
- Neonatal consultants extremely supportive
- Excellent education programme for neonatal medical staff
- NNU nurses have good access to in-service education and were able to go on externally funded courses
- All senior qualified nurses have specialist qualification
- Evidence of very good parental support mechanisms.

At the same time a number of issues were also identified, including the following:

- Challenging physical environment on labour ward and neonatal unit
- Lift between labour ward and floor with general theatres of concern

- Unsatisfactory arrangement of SCBU on different floor to IC/HD which meant not the most efficient use of staff (i.e. doubling up of some posts)
- Capacity to cope with predicted increase in deliveries.

➢ Picker Survey[10] of parent's experiences of neonatal care

The "Picker Survey" focuses on understanding what parents think about the neonatal care and treatment their baby received. The survey provides a detailed picture of the current quality of the Whittington Hospital neonatal services and how they compare to other units.

In general the unit scored well for parameters for care and empathy, it however highlighted particular concerns with support accommodation for parents, particularly the lack of privacy for mothers.

Fig 2.9: Picker Survey result showing Whittington Health position vs other units

[10] Picker Institute Europe Survey 2011 - **Parents' experiences of neonatal care**

2.8 External Environment

2.8.1 Commissioning environment

The development of Whittington Health maternity and neonatal services has to be placed within the context of national policy and the local commissioning environment. Key elements of these are described below.

- **National Policy**

➢ National Service Framework for Children, Young People and Maternity Services

This is a 10-year programme to stimulate long-term and sustained improvement in children's health. It aims to ensure that fair, high-quality and integrated health and social care is provided for mothers in pregnancy and children from birth through to adulthood.

➢ Towards Better Births - Healthcare Commission Review of Maternity Services in England

This report is the culmination of a programme of work by the Healthcare Commission that incorporates the previous 2007 maternity services review. The report highlighted concerns that in some Trusts:

- Levels of staffing were well below the average, indicating that they may have been inadequate
- Consultant obstetricians did not spend the time recommended by their professional body on labour wards
- Doctors and midwives did not attend in-service training courses consistently across trusts
- There was not adequate continuity of care for women
- Recommendations were not adequately adhered to for ante-natal care, particularly for those women whose pregnancies were likely to be more risky
- Women experienced poor communication; care and support after their babies were born.

➢ Maternity Matters: Choice, Access and Continuity of Care in a Safe Service (2007)

The key aim of Maternity Matters is to improve the quality of service, safety, outcomes and satisfaction for all women through offering informed choice around the type of care that they receive, and improved access to services whilst ensuring continuity of care and support. This means providing high quality, safe and accessible services that are both women-focused and family-centred.

In 2005, the government committed to offer all women and their partners a wider choice of type and place of maternity care and birth, stating that four national choice guarantees would be available for all women by the end of 2009 and women and their partners will have opportunities to make well-informed decisions about their care throughout pregnancy, birth and post-natally. The four national choice guarantees are:

- Choice of how to access maternity care
- Choice of type of ante-natal care
- Choice of place of birth
- Choice of place of post-natal care

Maternity Matters describes a comprehensive programme for improving choice, access and continuity of care and it sets out a strategy that will put women and their partners at the centre of their local maternity service provision. It highlights how commissioners, providers and teams of maternity care professionals will be able to use the health reform agenda to shape the provision of services to meet the needs of women and their families. It emphasises the roles that each can play in providing women-focused, family-centred services and gives examples of what could be in place to achieve this.

- **Local Commissioning**

Whittington Health works closely with its two main local commissioners, Islington and Haringey CCGs to ensure that service development meets the needs of local populations. Within north London the CCGs also work collaboratively on certain areas, including maternity services, and this is reflected in the published commissioning intentions for 2014/15.

➢ North London CCGs

The North London CCGs collaborative commissioning intentions have identified the following commissioning requirement for maternity services for 2014/15:

Providers will be expected to continue their local programmes of improvements to clinical quality and women's experience of childbirth and to participate with the programme of change being driven jointly across Clinical Commissioning Groups in North Central London. This includes working with commissioners to support the full adoption of the maternity Payment by Results (PbR) tariff and a model of care encompassing the following attributes:

- Accessible and timely antenatal care
- Midwife coordinated care
- Provision of continuity of care
- Choice and non-medicalised care
- Safe births
- Commission and provide for diversity
- Improved postnatal care
- Strengthened user involvement

➢ Islington CCG

In addition, Islington CCG has identified the following priority area:

- to work with the Whittington Health ICO to extend capacity through the Maternity Business Case

➢ NHS England

Neonatal services are commissioned by NHS England, who work closely with the Neonatal networks to ensure comprehensive provision of all levels of service.

2.8.2 Clinical Networks

➢ Neonatal network (Barnet, Camden, Enfield, Islington and Haringey)

The Neonatal network is well established and provides different levels of neonatal care, distributed across the five hospitals. There are defined pathways which means that all extremely preterm babies go to University College Hospital; and from 26 weeks gestation can be treated at the Whittington Hospital or to Barnet Hospital. This makes most efficient use of personnel, experience and other resources. The Whittington hospital service has been a part of this Network from its inception and takes the majority of babies over 26 weeks gestation from the Royal Free hospital.

➢ Maternity and Newborn North Central Network (Barnet, Camden, Enfield, Islington and Haringey)

The Maternity network was established in 2010, based on the neonatal network. It is concerned primarily with the establishment and monitoring of quality in the Maternity Services of the five local hospitals. This is to benefit women during their pregnancy and postnatal periods; their babies; the commissioners; and member hospitals.

The Whittington hospital maternity service has been an active member of this group since its inception and from 2013, has facilitated the secondment of Chandrima Biswas, Consultant Obstetrician, to be Obstetric lead for the network.

To date the network has produced standards for the local hospitals, including pathways for:

- Caesarean section for Maternal Request
- Birth Centre inclusion Criteria
- The introduction of diagnostic fetal fibronectin testing throughout the network hospitals
- The introduction of magnesium sulphate for neuroprotection of preterm babies.
- Assistance in monitoring of caesarean section rates
- Shared experience in for example the introduction of outpatient induction of labour.

➢ Pan London Strategic Clinical Maternity Network

The Whittington Health Head of Midwifery is an active member of the Pan London Strategic Clinical Maternity Network which is looking at how to improve maternity service provision across London working with other colleagues to improve the provision of maternity care. The network is looking more specifically at: reducing maternal death; a reduction in stillbirth rate; and improving patient experience.

2.8.2 Local Provider Context

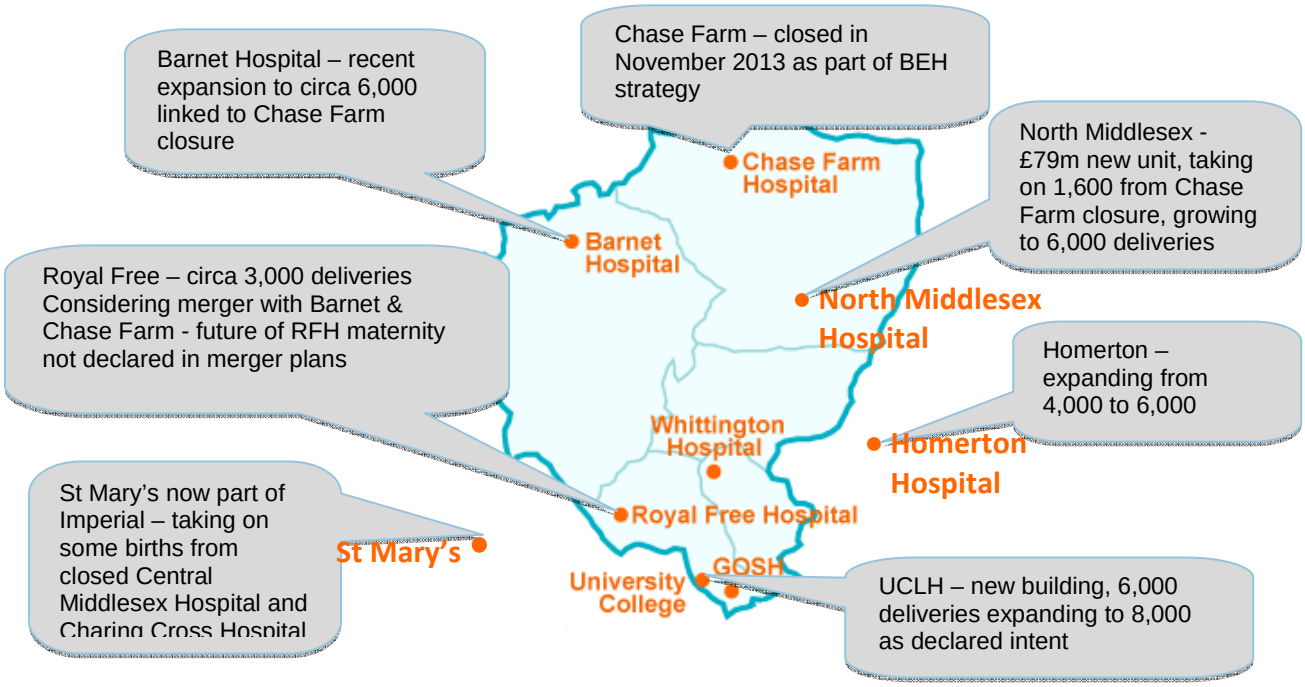
Maternity is one of the few healthcare services where the patient has a significant degree of choice over the facility in which they chose to be treated. In the modern environment women are also able to make more informed choices due to the increasing impact of social media and other sources of local information and women are prepared to travel greater distances to obtain the healthcare of their choice.

Maternity services are provided by all the surrounding local acute trusts and women are able to freely choose which service they wish to use, without necessarily being referred by their GP. This sometimes results in women initially booking with a number of different service providers and keeping open their eventual choice of where to have their delivery.

The following is a brief analysis of the maternity services local to the Whittington Hospital with regards to the quality of facilities and capacity.

- Barnet Hospital has relatively new, high quality facilities and circa 6,000 delivery capacity, expanded to support the closure of the Chase Farm Unit
- University College London Hospital (UCLH) has high quality facilities and is currently exploring the option of expanding capacity further from 6,000 to 8,000 deliveries.
- North Middlesex Hospital has just opened a new, expanded facility following the closure of Chase Farm Unit.
- Homerton University Hospital has good facilities and expects to expand from 4,000 to 6,000 deliveries.
- The Royal Free Hospital currently has acceptable facilities with future plans following the acquisition of Barnet and Chase Farm Hospitals,

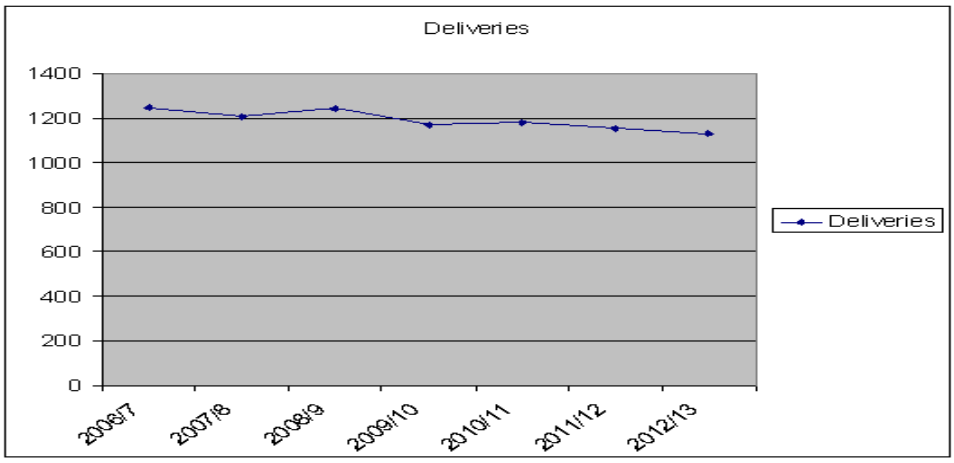
Fig 2.10: Surrounding local providers for maternity care provision



- **Impact of new facilities**

With the greater importance of choice, the opening of new and/or improved facilities (see fig 2.10) will be attractive to women and their families when choosing a future care provider. The Trust experienced the impact this following the opening of the new UCLH maternity unit in 2008 when a 10% decrease in Islington maternity delivery activity at Whittington Hospital was experienced.

Fig 2.11: Islington Deliveries 2006/7 to 2012/13



2.9 Promoting Whittington Health maternity and neonatal services

The Trust does not actively promoted its maternity services to local women and GPs (with the exception of a basic website presence) as it currently operates close to full capacity with existing levels of demand. The Trust consider that the additional demand brought about by the active promotion of the Maternity services could compromise their ability to continue to provide high quality and safe services.

The Trust believes strongly that the current good reputation of the service, evidenced in the recent 2013 national patient survey, coupled with significantly improved facilities would lead to increased demand from women choosing to deliver at The Whittington hospital.

During the implementation of the business case, the Trust will actively promote the maternity service to local women and GPs, offering the choice of a service that provides a true range of delivery options, local community based antenatal and postnatal provision and ambulatory-based acute care, coupled with neonatal intensive and special care provided in adjacent facilities if needed.

There are a number of key elements to the Trust's marketing plan for maternity and neonatal services that are already under development. These include:

- A marketing audit (external and internal analysis) - to ensure thorough understanding of the environment, market, the needs/motivation of women and their familes, and current position (some of this work has already been down as part of the business case).
- Situational analysis - Evaluation of current performance based on the audit including current marketing position and market overview.
- Marketing objectives - On the basis of the audit, marketing objectives will be set with the core aim of attracting a further 700 births.
- Marketing strategy - This will focus on segmentation of the market, identifying the target market and Whittington Health's positioning and messaging (to women and GPs)
- Tactics/Marketing mix - as a service this will be extended to include: people; process; and physical environment.
- An action plan for the first year.
- Controls and monitoring to ensure the plan keeps on track.

2.10 The "Case for change"

Whittington Health provides maternity services that are among the best in England, according to the 2013 National NHS survey coordinated by the Care Quality Commission (CQC) and carried out by Quality Health[11]

Whittington Health believes that maternity and neonatal services are central to the operation of an Integrated Care Organisation and integral to Whittington Health's vision of providing high quality joined up healthcare to local people. A 'life course' approach to women's health care offers a more unified and women-centred approach to health promotion, disease prevention and management with implications for long-term, cross-generational gain.[12]

The Whittington Health maternity and neonatal service models are well established and meet national standards. Review and development of service provision is on-going, with recent initiatives including: partners now being able to stay overnight on the postnatal ward (received 'Islington Courage Award'); Consultant Midwife-led obstetric weight and nutrition clinic; weekly community antenatal clinic in the Lubavitch centre; better Integration of the Trust's health visiting services with maternity services and midwives; and Family Nurse Partnerships - with the

[11] 2013 National Maternity Survey, Quality Health
[12] Why should we consider a Life Course Approach To Women's health Care, Scientific Impact paper 27, RCOG

service now expanding into Hackney. Neonatal services are linked more closely to community based nursing and paediatric services facilitating earlier discharge.

Further developments are already planned, including: further improvements in shared care arrangements with GPs; review of emergency caesareans and the creation of a midwifery run VBAC clinic to reduce caesarean section rates; review of the bereavement services for maternity; development of phone apps to share information with women on all aspects of pregnancy and aftercare and closer working with paediatric services to focus on the 1st two years of life.

However, the Whittington Health maternity and neonatal services need facilities that meet current NHS standards and meet the needs of the local population.

The quality and constraints of the current physical environment will make it increasingly difficult for the Trust to continue to deliver a safe, high quality and viable service in the future.

Whittington Health has had to implement a broad range of strategies to mitigate against the impact of operating in inadequate and cramped facilities. These strategies do not always provide the optimal solution and often represent an inefficient use of resources.

Whittington Health must invest in maternity and neonatal services to:

- Address the poor physical environment and space constraints of the neonatal ITU/HDU and Labour Ward. Without investment, these will become increasingly unacceptable, making it increasingly difficult to meet not only clinical standards but also patient expectations.
- Improve the quality and safety of obstetric theatre provision by ensuring there is sufficient theatre capacity, easily accessible from the Labour ward and maternity and neonatal services.
- Create delivery capacity to provide real choice for local women. Currently functioning at the level of 4,000 deliveries annually, the maternity service is operating at the upper bounds of capacity, quality and safety.
- Address the poor quality and absence of staff facilities, which will increasingly impact on the future recruitment and retention of staff in an already competitive labour market.

Whittington Health must invest in maternity and neonatal services to ensure that they:

- continue to be safe,
- continue to meet expected clinical standards,
- offer real choice to local women
- support staff, and
- are provided within facilities that meet NHS standards.

The Trust considers that there is a compelling case for change.

2.11 Investment objectives

In responding to the case for change the Trust have identified the following key investment objectives:-

- By April 2016, to improve the quality and safety of the neonatal ITU and HDU facilities. (using Health Building Note (HBN) 09-03, sec 7.15/7.16 as the benchmark).
- By April 2016, to build a second, co-located, dedicated obstetric theatre, thereby improving the safety of maternity theatre service provision.
- By April 2016, to increase the capacity of the maternity and neonatal services to meet the needs of an anticipated 4,700 deliveries.

2.12 Business Scope

In looking at the scope of any future development the Trust have considered the following key constraints and dependencies :

- The need to improve the overall service by constructing a second dedicated obstetric theatre that is co located with the Labour ward,
- The need to bring neonatal services on to the same floor level,
- The need to ensure that the Trust develop enough capacity to cover the local population growth. The Trust are also obliged to consider the “future proofing” of any proposed development,
- The transfer effect, where women exercise choice over where to have their delivery, also needs to be taken in to account, and this is likely to act to increase the number of deliveries that the service will need to manage,
- The Trust wish to operate an efficient service in financial terms and therefore do not wish to develop a service that goes beyond 5,000 deliveries which would otherwise require significant additional consultant cover per the Royal College Obstetricians and Gynaecologists (RCOG) guidelines.

The Trust has established that it will develop a Base Case around 4,700 deliveries and related neonatal activity. Additionally high growth and low growth cases will be examined.

3 Economic Case

3.1 Introduction

In accordance with the Capital Investment Manual and requirements of HM Treasury's Green Book (A Guide to Investment Appraisal in the Public Sector), this section of the OBC documents the range of options that have been considered in response to the potential scope identified within the Strategic Case. The process of appraisal is described including:

- Identifying the critical success factors and objectives of the investment;
- Generation of the Long List of options and the process for establishing a Short List;
- Descriptions of the Short listed options and their costs;
- The qualitative benefits appraisal;
- Risk appraisal; and
- The identification of the preferred option.

3.2 Critical success factors

The critical success factors for this project are considered to be:

- **Strategic fit and business needs –** how well the option meets the investment objectives set out in the Strategic case, supports the Trust's clinical strategy and objectives of moving towards a Foundation Trust.
- **Potential Value for Money -** how well the option supports service development and integration, the requirements of guidance, and optimises the potential return on expenditure.
- **Potential Achievability -** how likely is it that the option will be successfully delivered:
  - In view of the Trust's ability to respond to the required level of change and adapt the Midwifery model of care to best use the revised space.
  - In view of the level of disruption that will accompany any option and the need to minimise the cost of such disruption, both in terms of financial cost and reputational cost.
- **Potential affordability -** how well the option matches the likely available funding and enables the Trust to meet its key financial targets in the medium to long term.

3.3 Project investment objectives

The primary aim of the project is, within a 2 year period, to provide safe and high quality maternity and neonatal facilities necessary to support the existing first class clinical services. More detailed specific objectives are :-

- By April 2016, to improve the quality and safety of the neonatal ITU and HDU facilities. (using Health Building Note (HBN) 09-03, sec 7.15/7.16 as the benchmark).
- By April 2016, to build a second, co-located, dedicated obstetric theatre, thereby improving the safety of maternity theatre service provision.
- By April 2016, to increase the capacity of the maternity and neonatal services to meet the needs of an anticipated 4,700 deliveries.

3.4 Long list of options

In ascertaining how the Trust would be able to meet its strategic objectives within the current 5 year Long Term Financial Model (LTFM) planning period, a long list of options has been drawn up by the Maternity Steering Board for further consideration. In summary these are :-

i) Do Nothing

Under this option the Trust would cease to invest any further capital in to the services which would be left to continue to function within the existing facilities, at the existing levels of activity.

ii) Do Minimum

The services would continue to operate at the current level of 3,986 deliveries per annum, and 7,624 cot days, and the Trust would continue to invest in the facilities from its own internal resources in line with the figures laid out in the current Integrated Business Plan (IBP) and LTFM. The capital spend would be targeted at ensuring that a safe service can be offered from the existing facilities with no consideration of expanding capacity.

iii) Strategic Investment

The Trust would seek to invest to improve the quality of patient experience and to prepare the Trust for a potential rise in the number of deliveries over the current (and extended) planning period. In looking at this option the Trust recognises that this could be achieved in a number of ways, which have been noted as variants on the Strategic Investment option, as outlined below:

a. Refurbishment and upgrade of existing space

Under the “Refurbishment” option the existing facilities and space would be upgraded to a higher specification than at present which would include better co-location of services to provide an overall improved patient experience.

b. Relocation at the Whittington Hospital site

The Trust could consider re locating the services to another area of the Whittington hospital site that might provide better value for money than simply refurbishing the existing floor space as under a. above.

c. New Build

If sufficient capital were available the Trust could consider the construction of a new purpose built facility to replace the existing structures, either on the Whittington hospital site or elsewhere in the locality.

3.5 Short list of options

Set out below is a detailed description of each of the long listed options, with their comparative merits, which is designed to aid the Trust in its selection of an options shortlist.

The short listing process was undertaken by the members of the Maternity Steering Board in consultation with their respective professional colleagues.

i) Do Nothing

Under this option the Trust would continue to serve the local communities in Haringey and Islington from the existing facilities but with the service receiving no further capital investment. In this respect it differs from the “do minimum” option which <u>does</u> include on going capital spend.

This option has been dismissed as unable to meet the strategic objectives of the Trust and would be likely to have the following impact on the Trust as a whole.

- Lack of investment would lead to the unit gaining a poor reputation which would potentially result in lower patient numbers as women chose to have their deliveries at other hospitals.
- Reduced activity would probably lead to a reduction in income that may not be able to be fully mitigated by reductions in cost, thereby leading to the need for further savings to be made.
- Poor reputation would probably lead to staff leaving and difficulty in recruitment of staff at all levels.
- The Trust would not carry out any backlog maintenance. This would only produce a net saving to the Trust if it had no other requirements for capital spend which is not the case.

Given the above, no further detailed financial analysis has been carried out on this option and it has not been taken through to the short list.

ii) Do minimum

Under this option the Trust will to continue to serve the local communities of Haringey and Islington, from the existing facilities, and will carry out the required backlog maintenance in line with the issues identified in the recent six- facet survey. The Trust has developed a summary of those works as they relate to maternity which is reproduced below.

Table 3.1 Maternity Backlog Investment Programme

		Decant Costs	Improvements	**Total**
		£'000	£'000	**£'000**
2014/15	Ventilation to NICU and ward refurbish	300	1,700	**2,000**
2015/16	Ventilation to SCBU and ward refurbishment	300	1,700	**2,000**
2016/17	Lift refurbishment		500	**500**
	Antenatal clinic refurbishment	250	750	**1,000**
2017/18	Cellier ward refurbishment	100	650	**750**
	Labour ward refurbishment	500	500	**1,000**
2018/19	Betty Mansell ward refurbishment	100	650	**750**
	Maternity Day unit refurbishment	100	650	**750**
	Theatre refurbishment		750	**750**
	Public spaces		500	**500**
		1,650	8,350	**10,000**

The programme is consistent with the IBP and LTFM capital plan and allocates approximately £2m per annum for the entire 5 year period of the LTFM giving a spend of £10m which will be funded from internal resources ie Capital Resource Limit (CRL).

By the end of the current planning period it is anticipated that further backlog issues will have arisen in relation to the Maternity unit such that a level of additional spend will be required beyond 2018/19.

Although this level of spend is significant, it will not address any issues of:

- Capacity – in terms of the number of deliveries
- Space – as it relates to the operation of neonatal ITU / HDU
- Safety – as it relates to the need for a second co-located operating theatre

Under this option the number of deliveries would be expected to start at its historic level of 3,986 rising to 4,018 during 2014/15. Thereafter the number of deliveries would stay at this level for each of the successive years.

Although this option does not meet the Trust's critical success factors, it does however represent a viable option for the Trust, subject to the considerations of the "Downside case" which is discussed later in section 7 of this OBC. This option has therefore been shortlisted and represents the baseline against which other options will be compared.

iii) a Refurbishment of existing facilities

Under this option the Trust would seek to meet its overall intention of creating a first class facility, fit for the 21st century, and capable of managing up to 4,700 deliveries.

This would be achieved by a significantly refurbished unit with the introduction of a second (co-located) obstetric theatre and the update of the neonatal ITU and HDU facilities to meet modern health building standards which will improve privacy and dignity whilst further improving clinical safety. This option does meet the Trust's strategic objectives and therefore the option will be shortlisted and explored in more detail.

iii) b Relocation of facility

Under this option the Trust could look to meet its strategic objectives by relocating from its present location to an alternative location either on, or off, the existing Whittington hospital site.

- The possibility of moving the services away from the existing site has been dismissed as not viable due to the need to be close to the other clinical facilities. Any move of clinical services off the main site does not fit within the existing Estates Strategy which has itself been the subject of amendment following the recent "Listening exercise". Furthermore, not only would it take a significant amount of time in identifying an appropriate site, but the move of services away from the Whittington hospital site might require fresh and possibly lengthy public consultation. This option would not be able to address the investment objectives within the required timeframe.
- The possibility of re locating within any of the existing structures on the Whittington hospital site has also been reviewed at a high level. Within the existing plans, and with reference to the existing Estates Strategy, no space of any significant size could be given over to maternity and neonatal services without a significant level of disruption and double decant which would not be Value for Money and may, in any case, be un affordable.

Based on this the Trust have decided not to short list this option.

iii) c New Build

Under this option the Trust would look to provide a brand new facility somewhere, either inside or outside the curtilage of the existing Whittington hospital site.

Initial concerns over the affordability of such an option lead the Trust to engage a firm of health planners (BDP) to produce a high level study of the cost of constructing an independent building capable of housing a facility that would meet the strategic intentions of the Trust.

The report (Appendix 11) shows the construction cost alone to be in the region of £ 44 m with an anticipated land cost of a further £ 1m as the structure could not be accommodated on the existing site. Even assuming that the financing cost of PDC at 3.5% would be lower than loan funding, there would be an annual interest cost of £ 1.575m plus a depreciation cost of some £977k which would far outweigh the contribution from any additional capacity. Additionally there would be little or no cash released from moving out of the existing space as this could not be independently sold off.

Therefore the Trust believes that the option is unaffordable and as a consequence this option has not been shortlisted.

Short-listing Conclusion

The Maternity Steering Board concluded that the only option that should be considered further was the “Refurbishment” option as it met the investment criteria set out in the Strategic case, was viewed as affordable, and was achievable within the timescales set out in the Strategic case.

The Maternity Steering Board also concluded that, in service terms, it was viable for the Trust to simply continue to serve the women of Haringey and Islington in the same way that they have done previously and as described in the “Do Minimum” option. Although this option did not meet the investment criteria set out in the Strategic case, and was clearly a sub optimal solution, it should be considered as the benchmark against which the Refurbishment option should be measured.

Table 3.2 Summary of the High level Financial and Non financial benefits at the Short listing stage.

Short listing	**Long listed options**				
	Do Nothing	**Do Minimum**	**Refurbishment**	**Relocate**	**New Build**
Benefits criteria (for shortlisting purposes)					
Would provide for the improvement to quality and safety in the neonatal service	No	No	**Yes**	**Yes**	**Yes**
Would provide for a second co-located obstetric theatre	No	No	**Yes**	**Yes**	**Yes**
Would allow for increased capacity associated with increased activity up to 4,700 deliveries	No	No	**Yes**	**Yes**	**Yes**
Would maintain or enhance the Trust's reputation as the provider of choice to the people of Haringey and Islington.	No	No	**Yes**	**Yes**	**Yes**
Does not incur significant decant or double running costs	**Yes**	No	**Yes**	No	No
Restrictions & constraints					
Would be capable of completion on the existing hospital location	**Yes**	**Yes**	**Yes**	No	**Yes**
Would be capable of being provided within the 5 year planning period	No	No	**Yes**	**Yes**	**Yes**
Would be capable of completion within foreseeable funding.	No	No	**Yes**	No	No
Would not require the review of the Trust's current Estates Strategy	**Yes**	**Yes**	**Yes**	No	No

3.6 Short list of options

The short listed options are further described in detail below:

3.6.1 Do Minimum option

Under this option the services continue to operate from the existing facilities constructed in 1900 and would continue at the initial level of 3,986 deliveries but rise to 4,018 during 2013/14 and thereafter would stay at this level. The number of cot days would remain at 7,044 throughout the period.

In line with table 3.1 above, the Trust would spend approximately £ 2m per annum, for the next 5 years, on necessary backlog maintenance and during this period the Trust could remove a substantial proportion of the known historical backlog. During the period however a level of

additional backlog will naturally occur such that, at the end of the LTFM period, the backlog would be reduced but not eliminated. It should be noted that of the total 5 year spend £ 1.650m would be spent in simply decanting services from one area to another to allow the works to take place.

At this level of spend there would be no strategic expansion of the facility in terms of added capacity to cope with the assumed increased demand, nor would there be sufficient capital to create a co-located second obstetric theatre and thereby reduce some of the existing safety concerns. The space occupied by the neonatal services would remain constrained by the fabric of the Victorian building with no reduction in the risk of infection. Therefore, in terms of patient experience, the facilities would be improved over the 5 years but not to the extent that they met the investment criteria set out in the Strategic case.

The Trust are aware that the planning permission related to P block is due to expire and the Trust needs to re-provide services currently occupying this accommodation.

Although the Trust will plan to keep disruption to a minimum the maternity facilities are likely to be undergoing significant building works for the next five years. Although there will be clear aims in terms of improvements to facilities, it is possible that women will begin to chose to have their deliveries elsewhere rather than possibly face coming to a hospital that is undertaking such an extended period of works. For the purposes of assessing the options this factor has been ignored but has been further explored in Section 7 “Downside case” .

The Maternity Steering Board have further considered the reputational implications of simply continuing in the existing location and believe that the number of deliveries will reduce as women chose to have their babies at other local hospitals because :

- A protracted period of continuous highly visible maintenance would reduce the actual number of deliveries that could be safely managed during any construction period.
- As the period continues the hospital may acquire a reputation for being continuously “unfinished”.
- The works will visibly only correct the look of some parts of the building but will not address the safety issues that have been highlighted in the Strategic case.
- The Trust will have to manage the reputational issue that a significant amount of money has been spent, but that core issues around safety have not been addressed and the building still is not “state of the art” and fit for the 21st century.

In essence the Trust would only ever be offering a compromise in terms of facilities without ever holding out the prospect of a solution.

Whereas it is feasible for the unit to continue to provide a good quality service, at the current levels of activity, the way in which the facility is set out will always be sub optimal in terms of current best practice. The levels of savings required to counteract the impact of tariff deflation and cost inflation will be challenging and the use of capital just to maintain a sub optimal building will not represent Value for Money and may not represent be the best use of the Trust’s resources.

3.6.2 Refurbishment option

The option to refurbish the existing footprint has been considered alongside the Trust’s design advisers BDP and a number of possible layouts have been reviewed (described in more detail in Annex B - the Design Report), all of which would be capable of meeting the Trust’s investment criteria. In assessing which of these layouts to adopt as the “Refurbishment option” the Maternity Steering Board primarily considered the issues around disruption to existing service; the potential cost of decant or double decant; and the requirement for sufficiently sized footprints to meet HBN standards for different elements of the services.

Following this review the Maternity Steering Board recommended that the layout of option 1 be adopted as the Refurbishment option.

The preferred option would be achieved through a significant refurbishment of the existing unit with the introduction of a second (co-located) obstetric theatre and the update of the neonatal ITU and HDU facilities to meet modern health building standards to improve privacy and dignity and further improve clinical safety. The solution would be delivered by introducing a new build core alongside the existing buildings, which would enable an increase in the overall footprint of each floor level. It would also allow the joining up of the existing wings, thus creating bigger footprints to provide for the different elements of the maternity and neonatal services. The preferred option requires no decanting and no planned reduction in activity levels during the implementation phase.

The option has been described more fully in Annex B - the design report.

3.7 Benefits criteria for shortlisted options

A range of Benefits criteria have been developed via the Maternity Steering Board to reflect the project objectives. These have also been weighted by the members of the Maternity Steering Board and are set out below:

i) Ensure that the quality of the clinical facilities meets modern healthcare standards and is sympathetic to the patient pathways and working practices.

- Ensure that the neonatal service meets current HBN standards
- Ensure that second obstetric theatre capacity is provided in the best clinical location.

ii) Meets the needs of the local (and wider) population for maternity and NICU services.

- Ensure that the facilities are able to cope with the projected long term increased demand from the local population.
- Ensures that the facilities provided are comparable to those offered by other provider organisations that are readily accessible to the local population.

iii) Provide 21st century facilities in a timely manner whilst continuing to ensure operational patient safety and achieving the earliest opportunity to reduce the existing clinical risk identified.

- Objectives can be reached within timescales that do not lead to a loss of reputation for the Trust or its services.

iv) Supports the Trust's strategic objectives

- Ensures that the Trust can meet its quality strategy to have patient centred care where people are treated with dignity, in privacy and with the compassion at the right time and in the right place for them.

v) Effective use of the estate

- Ensures optimal use of the footprint of the estate
- Is compliant with the "Estate strategy" and does not unnecessarily compromise any future service plans.
- Ensures that plans are acceptable to local stakeholders - residents and planning authority.
- Is in accordance with the Development Control Plan and allows potential for future service flexibility.

These benefits criteria map to the investment objectives in the following way

Table 3.3: Mapping of benefits criteria map to investment objectives

Investment objectives	Benefits criteria
• By April 2016, to improve the quality and safety of the neonatal ITU and HDU facilities. (using Health Building Note (HBN) 09-03, sec 7.15/7.16 as the benchmark). • By April 2016, to build a second, co-located, dedicated obstetric theatre, thereby improving the safety of maternity theatre service provision.	1) Ensure that the quality of the clinical facilities meets modern healthcare standards and is sympathetic to the patient pathways and working practices. 3) Provide 21st century facilities in a timely manner whilst continuing to ensure operational patient safety and achieving the earliest opportunity to reduce the existing clinical risk identified. 4) Supports the Trust's strategic objectives and provides flexibility over future planning. 5) Effective use of the estate including full consideration of sustainability issues
• By April 2016, to increase the capacity of the maternity and neonatal services to meet the needs of an anticipated 4,700 deliveries.	2) Meets the needs of the local (and wider) population for maternity and NICU services.

3.7.1 Qualitative (non financial) option appraisal

Members of the Maternity Steering Board ranked the options in order to determine the best option for the maternity and neonatal services. The appraisal was based on qualitative benefits without taking financial matters in to consideration. The members of the Maternity Steering Board who took part in the scoring exercise were:

Name	Role	Department
Friedericke Eben	Divisional Director for Women, Children and Families Division, and Consultant Obstetrician & Gynaecologist	Women, Children & Families
Phillip Ient	Director of Estates and Facilities	Estates and Facilities
Sophie Harrison	Project manager	Estates
David Norris	Finance lead	Finance

The group considered how the benefits should be weighted in terms of relative importance of individual criteria to the success of the project and agreed on the following weighting.

Table 3.4: Benefit criteria weightings

	Criterion	Weight %
1	Ensure that the quality of the clinical facilities meets modern healthcare standards and is sympathetic to the patient pathways and working practices	30 %
2	Meets the needs of the local (and wider) population for maternity and neonatal services.	20 %
3	Provide 21st century facilities in a timely manner whilst continuing to ensure operational patient safety and achieving the earliest opportunity to reduce the existing clinical risk identified.	20 %
4	Supports the Trust's strategic objectives and provides flexibility over future planning.	15 %
5	Effective use of the estate including full consideration of sustainability issues	15 %
		100 %

The short listed options were then scored by the group and scores of 1 – 10 were allocated to each option against each criterion. A score of zero indicated that the option failed to satisfy the criterion in any respect. A score of ten indicated that the option fitted the criterion perfectly.

The table below shows the raw un-weighted scores.

Table 3.5: Un-weighted scores

	Criterion	**Do Minimum**	**Refurbishment**
1	Ensure that the quality of the clinical facilities meets modern healthcare standards and is sympathetic to the patient pathways and working practices	2	9
2	Meets the needs of the local (and wider) population for maternity and neonatal services.	2	8
3	Provide 21st century facilities in a timely manner whilst continuing to ensure operational patient safety and achieving the earliest opportunity to reduce the existing clinical risk identified.	0	8
4	Supports the Trust's strategic objectives and provides flexibility over future planning.	3	8
5	Effective use of the estate including full consideration of sustainability issues	3	8
		10	49

The table below shows the weighted scores.

Table 3.6: Weighted scores

	Criterion	Do Minimum	Refurbishment
1	Ensure that the quality of the clinical facilities meets modern healthcare standards and is sympathetic to the patient pathways and working practices	0.60	2.70
2	Meets the needs of the local (and wider) population for maternity and neonatal services.	0.40	1.60
3	Provide 21st century facilities in a timely manner whilst continuing to ensure operational patient safety and achieving the earliest opportunity to reduce the existing clinical risk identified.	0.00	1.60
4	Supports the Trust's strategic objectives and provides flexibility over future planning.	0.45	1.20
5	Effective use of the estate including full consideration of sustainability issues	0.45	1.20
	Total	**1.90**	**8.30**
	RANKING	**2**	**1**

From the un-weighted scores it is clear that the "Refurbishment" option scores were higher in every one of the scoring criteria and therefore no further sensitivity analysis with respect to the weighting is required.

The non financial option appraisal identified that the "Refurbishment option" as the preferred option.

3.8 Economic 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 cost and relevant property related revenue/operating costs; thus 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 does also include the valuation of certain benefits and risks.

The incremental income and additional clinical, non clinical costs and overheads have been modelled for the purposes of the financial appraisal (see Financial case). The model calculates changes to current 2013/14 budgets arising from changing levels of activity which themselves are dependent on the changing nature of the facilities.

3.8.1 Capital costs “Do minimum” option

The capital cost, as it relates to the Economic Case, is regarded as £ nil as there are no capital costs that will be expended in achieving the “Do Minimum” option. The option is defined as making no capital spend directly aimed at changing the activity levels of either Maternity or neonatal services. There is however the expectation/requirement that the Trust will spend sufficient on backlog maintenance to ensure that the fabric of the building can support a safe environment for the delivery of services. Initial estimates put this cost a £ 10m over the 5 years of the LTFM per table 3.1 to this case, which will come from internally generated cash as part of the Trust’s normal CRL.

This level of spend has not formed part of the Economic appraisal as it will be spent under either or the two competing options however

- In the case of the “Do Minimum” option the internally generated cash would be spent on backlog and not necessarily areas that would improve service capacity or experience. Of this £ 1.65m is likely to be spent on decant costs.
- In the case of the “Refurbishment” option the new build construction would automatically rectify some of the existing backlog. The Trust are however committed to ensuring that a similar amount of internally generated cash would be spent and would be targeted to support the Refurbishment option.

Although the Trust recognise that in Value for Money (VfM) terms spending this money in these different ways provides different economic benefits for the Trust these have been ignored for the purposes of this appraisal.

3.8.2 Capital costs “Refurbishment” option

The Trust and its advisors (BDP and Sweett Group) have developed a schedule of accommodation and functional requirements based on the clinical requirements set out in the Strategic Case, together with a Development Control Plan (DCP). The option does not require any decant programme to be drawn up.

The Trust’s technical advisors have used this information to estimate the capital cost in accordance with DH Estates guidance for capital reporting and Departmental Costs were estimated using Health Premise Cost Guidelines (HPCGs) and adjusted where necessary for any project specific items. On-costs and Mechanical & Engineering (M&E) costs were assessed using current processes and schedules of rates.

The location factor has been calculated using the BCIS detailed location factor quarterly report which shows a 7.0% factor for the Whittington hospital location.

The fees have been benchmarked against recent schemes of a similar size and represent 14% of the Works costs.

Costs are presented at current and out-turn prices utilising the Business Innovation and Skills (BIS) PUBSEC Tender Prices Index for non housing and BIS PUBSEC Geographical location factors. The current PUBSEC index for business cases is 183.

Table 3.7: Capital costs

		£ Cost	£ VAT	£ Total
1	Departmental costs	5,045,218	926,413	5,971,631
2	On-Costs	1,137,188	197,048	1,334,236
3	Total Works Cost	6,182,406	1,123,461	7,305,867
4	Provisional location adjustment	432,768	78,643	511,411
5	Sub total	6,615,174	1,202,104	7,817,728
6	Fees (14%)	926,124		926,124
7	Non works costs	0	0	0
8	Equipment costs*	100,000	20,000	120,000
9	Contingencies	377,066	69,366	446,432
10	TOTAL for approval	8,018,364	1,291,470	9,309,834
11	Optimism Bias	400,918	73,835	474,753
12	Sub total	8,419,282	1,365,305	9,784,587
13	Inflation	180,742	32,506	213,248
14	**Total cost to outturn**	**8,600,024**	**1,397,811**	**9,997,835**

* assumes significant reuse of existing equipment.

The detailed OB forms are included at appendix 8.

The initial cost of the design and management team has been absorbed by the Trust prior to the approval of this OBC and will continue to be set against the Trust's CRL throughout the build phase.

Equipment costs have been estimated based on an assumption that the majority of the equipment already exists within the services and will simply require re location. The Trust will refine the schedules and pricing to provide a detailed equipping budget as part of the Full Business Case (FBC). This will also take account of the level of equipment that will have been renewed during the 2 year build phase as part of the Trust's normal on going programme of capital investment and replacement.

For the purposes of the financial analysis the cost of the equipment is stated as £ 135,009 which includes a proportion of the contingency, optimism bias and inflation that are integral parts of the overall project cost.

Table 3.8: Equipment element of overall project for financial case purposes

	£ Cost	£ VAT	£ Total
Equipment cost (basic)	100,000	20,000	120,000
Contingency at 5%	5,000	1,000	6,000
	105,000	21,000	126,000
Optimism bias at 5%	5,250	967	6,217
	110,250	21,967	132,217
Share of inflation adjust	2,367	425	2,792
Internal allocation`	112,617	22,392	135,009
Balance = Buildings	8,487,407	1,375,419	9,862,826
Total cost to outturn	**8,600,024**	**1,397,811**	**9,997,835**

The Planning contingency has been estimated at 5%

- Value Added Tax (VAT)

No VAT is charged on design and other fees as this is generally recoverable. It is usually possible to recover a proportion of the VAT charged on refurbishment works since part of the cost are considered maintenance. The level of VAT regarded as recoverable has been assessed by Sweett Group based on their experience of similar projects.

- Backlog maintenance

In the case of the "Refurbishment" option the new build construction would automatically rectify some of the existing backlog. The Trust are however committed to ensuring that a similar amount of internally generated cash would be spent and would be targeted to support the Refurbishment option.

3.9 Optimism Bias

The basis for calculating Optimism Bias is described in the Section 6 The Management Case - Risk Management and is summarised below for the Refurbishment option.

In arriving at the appropriate level of Optimism bias for the project at this Outline Business Case stage the Sweett Group have prepared the required schedules to ascertain the Contributory factors to the Upper bound and the upper bound score and the detail of these is contained as an annex to section 6 of this OBC. In summary however :

The contributory factors towards the upper bound scored 22.35 in aggregate which has been reduced by the mitigation computation which produced an aggregate score of 23%. When taken together the rate of Optimism bias applicable has been set at 5.14 %

3.10 Land

There are no land cost implications associated with the refurbishment option as it uses land already owned by the Trust and the development does not prevent any other developments or disposals.

3.11 Property Related Revenue Costs

These include :

- Maintenance (Hard FM)

The refurbishment option will increase the space occupied by the services. Given that a significant part of the area will be refurbished as part of the programme and elements of the backlog removed, the Trust do not believe that there will be any additional hard FM costs over and above those that would have been incurred by the trust under the alternative "do Minimum" option.

- Soft facilities management

As with the hard FM the trust do not believe that there will be any additional cost of soft FM, cleaning etc, associated with undertaking the "refurbishment option. This is due in part to the improved efficiencies that will be made through significant environmental improvements and to the improved configuration of services.

3.12 Risks

The risks to the project have been identified in the Project risk register as incorporated in to the Management Case and appendix 12. The risks that are regarded as intrinsic to the options are set out in the table below.

Table 3.9: Intrinsic option risks

Risks associated with Do minimum	Risks associated with refurbishment
Clinical risk with the continued use of a non co-located second obstetric theatre.	There is a financial risk associated with the possibility that the increased demand activity does not materialise in line with the projections.
Infection control risk of having neonatal cots with spacing that does not comply with current HBN standards.	
Estates risk related to the planning requirement to remove P block	

The Trust has not undertaken a formal process of attempting to value the risks related to the Do Minimum however the potential value of the risk of lower than planned growth can be seen from the low growth model for the refurbishment.

3.13 Conclusion

The Economic Case is designed to identify the preferred option for any project that is faced with a range of viable options by assessing their comparative financial and non financial benefits. After due consideration the Trust are only able to recommend one option which meets the strategic objectives and therefore any detailed consideration of comparative discounted cash flows and other measures of value for money are viewed as not required.

The “do minimum” option is not regarded as a viable alternative to the Refurbishment and has been retained simply as a comparison when assessing the Financial case.

4 The Commercial Case

4.1 Introduction - Construction and Refurbishment Procurement Options

This section sets out an appraisal of the procurement options available to the proposed scheme based on the following assumptions:

- The construction value of the scheme is in excess of £4,348,350 and therefore is subject to EU procurement regulations.
- It is assumed that public funding through Public Dividend Capital will be available, or that Department of Health funding for a Capital Investment Loan (CIL) can be obtained.
- The procurement route is based on the preferred option of a refurbishment only of facilities within an operational hospital and therefore a PFI route is considered to be unsuitable.

4.2 Procurement options and risk transfer

The Trust has considered the available options for the procurement of the refurbishment. A long list of procurement options was considered. The table below looks at each option, the risk transfer possibilities associated with the options and the rationale for rejecting it or giving it further consideration.

Table 4.1: Procurement Options and Risk Transfer

Option	Benefits	Disadvantages	Conclusion
Traditional competitive tendering, standard form of building contract (NEC or JCT) The Trust appoints the design team, and a fully developed scheme is tendered to a number of contractors who provide a price for delivering the scheme, possibly on a 2 stage basis	• The Trust retains control over design and quality. • Good price certainty • Easier to accommodate Trust changes. • Value for money through competitive procurement • Could be open book (NEC Option C target cost and activity schedule)	• Significant design risk remains with the Trust. • This route has a poor track record of delivering projects on time and within budget. • A risk of claims if design information is not issued in time by the design team. • Time consuming as a full set of documents/design is to be produced before the works can be tendered and then the Official Journal European Union (OJEU) tendering process takes additional time, although time spent during the tender process should be seen as an investment.	**Discarded** due to Trust retention of risk and potential for programme and cost over-run.

Option	Benefits	Disadvantages	Conclusion
Detailed design and Construct Trust novates design team to contractor who has been appointed on the basis of a two stage tender.	• Trust retains some control over the design (to the point of novation) as the design team can be novated to the contractor. • Value for money to an extent (1st stage) through competitive procurement.	• The OJEU process applies although time spent during the tender process should be seen as an investment. • The contractor may price the risks involved and therefore the employer could be paying a premium for risk transfer. • Value for money of final costs	**Shortlisted** option due to the ability of the Trust to maintain continuity and control of the design to the point of novation.
Conventional Design & Build Contracting The Trust tenders on the basis of Employers Requirements including a performance based specification. The appointed contractor would provide a complete design and build package solution	• Risks are transferred to the contractor. • Faster than traditional competitive tendering. • A single point of responsibility for design. • Much of the detailed design work can be carried out in parallel with the construction thus a start on site can be achieved quickly. • Better cost certainty than traditional. • Value for money through competitive procurement	• The OJEU process applies although time spent during the tender process should be seen as an investment. • The Trust lacks control over detail. • The Trust QS has little negotiating room with respect to changes. • The contractor may price the risks involved and therefore the employer could be paying a premium for risk transfer: - not well suited to refurbishment	**Discarded** due to Trust losing control of design.
Measured term Contract The Trust appoints a contractor purely on the basis of rates for identified building elements / items following a competitive procurement	• Speed once contract in place • Value for money on rates through competitive procurement.	• Could tender without design. • Design and unknown work item risks would remain with the Trust • Quantum risk remains with the Trust • Not suited to larger contracts and infrastructure works as unknown work items would not be priced.	**Discarded** due to risk of cost increase if works rates and quantum are unknown.

Option	Benefits	Disadvantages	Conclusion
Management Contracting The Trust appoints and manages the design team. A Management Contractor is incorporated into the team to procure and manage the construction works packages.	• Suited to large, complex and fast moving projects where early completion is desirable. • Integration between design and construction is achieved as the Management Contractor is involved during the design phase. • Much of the detailed design work can be carried out in parallel with the construction thus a start on site can be achieved quickly. • Value for money through competitive procurement	• The OJEU process applies although time spent during the tender process should be seen as an investment. • Cost certainty will not be achieved until late in the project. • Risk lies mainly with the Trust. • The Trust will require considerable in-house expertise and resources to undertake the high degree of involvement needed. • The Trust lacks control over detail. • Multiple packages not suited to refurbishment due to clashes between work packages – Trust retains risk	**Discarded** due to lack of cost certainty, Trust retention of risk and the considerable in-house input required by the Trust.
ProCure21+ The Trust selects the preferred PSCP who will provide a suitable design and build solution at an agreed Guaranteed Maximum Price (GMP).	• The PSCP which includes a full design team and contractor are already pre-selected through OJEU selection therefore the procurement time and input is minimised. • Cost certainty based on Guaranteed Maximum Price party due to the early involvement of the supply chain. • The PSCP would hold the majority of the project risks. • Time savings are achievable due to robust planning in the early stages. • A 50:50 cost saving reward can be used as an incentive. • Open book accounting	• Benchmarking is recommended to verify price competitiveness in the absence of a competitive tender. • Build quality may suffer to achieve the GMP in the event of an affordability issue. • Contractor – led design may affect functionality	**Shortlisted** option due to the reduced procurement time scales and cost certainty.

4.3 Procurement options - conclusions

Following comparison of the procurement routes in the table above, there appear to be two options available to the Trust:

- **Detailed Design and Construct: Two Stage Tender**

  This procurement route will allow the Trust to retain design control to the point of novating the existing Design Team to the selected contractor. The selected contractor will then work through the detailed design stage with the novated Design Team. The contractor would then price the construction works (without competition). Cost certainty would only be achieved after this stage; however a GMP could be agreed with a 50:50 cost saving incentive. The OJEU procurement process would apply to this procurement route.

- **Procure 21+**

  This procurement route would allow the swift selection of a PSCP pre-selected under a national framework, and avoid the OJEU process. The client's design team can be novated into the PSCP to ensure that the client has control over the design till the point of novation. A GMP and incentive scheme will help to ensure best value, however the PSCP framework agreed rates would be used.

A decision on the preferred procurement route will be taken at FBC stage.

4.4 Services Procurement

- **Equipment**

  During the preparation of the Full Business Case, the Trust will develop their equipment schedules and then work with the design team, using the NHS Activity Database and exemplar rooms to finalise room equipment lists and data sheets and 1:50 equipment loaded room drawings in order to develop a schedule for all equipment items required for this project.

  From this a detailed equipping budget will be developed, ensuring that appropriate equipment is procured, with maximisation of equipment transfer from existing inventories and any surplus of assets at Whittington Health. The Trust commissioning team has experience and expertise from previous developments.

  It is expected that the development of the equipment procurement approach will be concluded by the time of submission of the full business case.

- **Hard FM**

  Hard FM for this section of the site is provided and will continue to be provided by Whittington Health.

- **Soft FM**

  Soft FM services are provided by Whittington Health.

- **IM&T**

  Whittington Health is in the process of implementing a new EPR system, which meets the needs of maternity and neonates.

4.5 Sustainability & Environmental Impact

The age of the existing buildings present the opportunity to improve thermal efficiency and performance by improving the external walls with replacement windows and insulated spandrel panels in the refurbished areas of the existing buildings.

The new windows will be selected to improve thermal efficiency and limit the impact of solar radiation and heat gain. They will also be selected to avoid thermal bridging and to improve overall air tightness of the building envelope.

Engineering services in the existing buildings will be renewed as part of the refurbishment works and altered demands, to take advantage of improved technology in such item as lighting, refrigeration, electric motors, etc. The engineering services design will also benefit from the improved insulation and air tightness, resulting in smaller more efficient plant. The controls strategy will also provide more efficient building services operation leading to reduced energy consumption.

The refurbished buildings will comply fully with, and wherever possible exceed, the recommendations of Approved Document L2B 2010 of the Building Regulations (incorporating 2010 and 2011 amendments) to limit CO2 emissions.

The M&E design will comply with Consequential Improvements under the PART L2B 2010 Building Regulations for Existing Buildings. In addition, consultations with Local Borough Council, with regard to sustainable design and low & zero carbon technology use, will result in feasibility studies and energy strategies being implemented to determine a viable means of providing acceptable energy reduction for replacement plant to fulfil the requirements under the London Planning Document.

BREEAM (Building Research Establishment Environmental Assessment Methodology) pre-assessments will be completed on the proposed refurbishment and the commitments established will be referenced to identify and drive energy efficiencies on all aspects of the building fabric and services. The assessment will consider the level of renewably sourced energy and progress towards carbon neutrality.

- **Energy Efficiency**

The M&E design will encompass the replacement of redundant services in existing buildings and areas which are being refurbished. The M&E services strategy will ensure energy efficient technology is employed, and the entire M&E services arrangement reviewed, to ensure the completed scheme will be lower than the 55 GJ per 100m3 maximum value stipulated for new buildings and 65 GJ per 100m3 for existing buildings under HTM 07-02: EnCO2de: Making energy work in healthcare.

Where existing M&E services are assessed in proposed refurbished buildings and areas, and are deemed to be maintainable and easily adaptable to suit proposed plans; a feasibility study will be carried out to determine if employing more efficient technology would be economically viable, in terms of reasonable payback periods, when compared with the 55 - 65 GJ per 100m3 range annual energy consumption costs for the given area.

The M&E services strategy will ensure energy efficient technology is employed, where economically feasible, and the entire M&E services arrangement reviewed. Therefore, where electrical consumption exceeds 6,000 MWh per annum, the completed scheme will ensure that levies incurred under the conditions of the CRC scheme will be kept to a minimum.

4.6 Town and Country Planning Act 1990

A planning application will be prepared as part of the Full Business Case process, once the 1:200 drawings are finalised.

Previous discussions with the Islington Council Planning Department have highlighted: the importance of the relationship between D and E blocks and the Jenner building which is Grade II listed; and the elevated walkways and the original entrance with the "Female Receiving Ward" stone being of particular interest.

The preferred option addresses these requirements and should substantially improve the overall appearance of the buildings.

4.7 Conclusion

Following a comparison of the procurement routes there appear to be two realistic options available to the Trust:

- Detailed Design and Construct: Two Stage Tender
- Procure 21+

A decision on the preferred procurement route will be taken at Full Business Case (FBC) stage.

5 Financial case

5.1 Introduction

The financial case looks at the affordability of the preferred option to the Trust as a whole. This section will provide an overview of the Trust's historical performance before looking specifically at the impact of the preferred option to carry out the refurbishment both on the Maternity and NICU services and the Trust as a whole.

5.2 Historical and forecast performance of the Trust

5.2.1 Income and Expenditure

Whittington Hospital NHS Trust has for the last eight years achieved its financial targets in respect of Income and Expenditure, Capital and Financing (EFL). In the last 3 years the Trust has demonstrated sound financial performance, delivering a surplus in each year (after allowing for impairments and after excluding the impact of IFRS).

Table 5.1 provides summary detail of the audited income and expenditure accounts for the three years from 2010/11 to 2012/13 along with a forecast outturn for 2013/14.

Table 5.1: Summary Income and Expenditure statement 2010/11 to 2013/14

	Actual	Actual	Actual	Forecast
Income & Expenditure Statement	**2010/11 £000**	**2011/12 £000**	**2012/13 £000**	**2013/14 £000**
Income				
Protected Mandatory Clinical Revenue	157,105	245,183	238,671	252,153
Non-Protected/Non Mandatory Clinical Revenue	451	935	1,296	1,955
Other Operating Revenue	28,664	32,094	41,375	33,913
Total Operating Revenue and Income	**186,220**	**278,212**	**281,343**	**288,021**
Expenses				
Pay Costs	(128,561)	(199,047)	(197,601)	(187,234)
Non-Pay Costs	(44,406)	(64,873)	(66,569)	(85,661)
Total Operating Expenses	**(172,967)**	**(263,921)**	**(264,170)**	**(272,895)**
Adjustment for Donated Asset Income				
EBITDA	**13,253**	**14,291**	**17,173**	**15,126**
Depreciation	(7,743)	(8,302)	(8,609)	(9,020)
PDC Dividends Payable	(2,888)	(2,805)	(2,666)	(3,350)
Interest Expenses	(2,581)	(2,654)	(2,614)	(2,732)
Interest Receivable	0	0	0	8
Impairment Loses	(2,198)	(3,747)	(4,975)	(32)
Gain/(loss) on disposals	(82)	0	(79)	0
Net Surplus/(Deficit)	**(2,239)**	**(3,217)**	**(1,770)**	**(1)**
Net Surplus/(Deficit) %	**1.20%**	**1.20%**	**0.60%**	**0.00%**
Less Impairment Excluding PFI	2,208	1,928	3,267	32
Less IFRIC 12 IFRS adjustment	459	2,308	2,059	988
Restatement/Donated Assets	0	101	56	72
Adjusted Net Surplus	**428**	**1,120**	**3,612**	**1,091**

5.2.2 Statement of Financial Position

The most significant recent Balance Sheet development is the inclusion in 2013/14 of the community properties which have been transferred to the ICO from the former Haringey and Islington PCTs. Table 5.2 summarises the year-end Statements of Financial Position for the three years to 31 March 2013 and provides a forecast to March 2014.

Table 5.2: Statements of Financial Position for 2010/11 to 2012/13

Balance Sheet	2010/11 £000	2011/12 £000	2012/13 £000	Forecast 2013/14 £000
Total non-current assets	**135,517**	**139,640**	**139,116**	**172,070**
Current assets				
Inventories	1,064	1,115	1,290	1,319
Receivables	6,966	12,044	11,042	20,299
Cash at bank and in hand	3,199	9,932	15,088	924
Total current assets	**12,206**	**23,776**	**28,096**	**22,767**
Total current liabilities	**(21,745)**	**(34,651)**	**(37,501)**	**(34,003)**
Net current assets (liabilities)	**(9,539)**	**(10,875)**	**(9,405)**	**(11,236)**
Total assets less current liabilities	**125,978**	**128,765**	**129,711**	**160,834**
Total non-current liabilities	**(40,431)**	**(38,960)**	**(40,400)**	**(42,795)**
Total assets employed	**85,547**	**89,805**	**89,311**	**118,040**
Taxpayers' equity				
Public dividend capital	48,206	53,206	53,344	83,935
Retained earnings	10,057	6,930	5,299	5,331
Revaluation reserve	27,284	29,669	30,668	28,774
Donated asset reserve	0	0	0	0
Total taxpayers' equity	**85,547**	**89,805**	**89,311**	**118,040**

5.2.3 Cash flow statement

Table 5.3 below summarises cash flows for the last three years together with a projection for 2013/14.

Table 5.3: Cash flows for 2010/11 to 2012/13

Cash Flow	2010/11 £000	2011/12 £000	2012/13 £000	Forecast 2013/14 £000
EBITDA	13,253	14,291	17,173	15,126
Excluding non cash I&E items	(6,103)	(972)	43	(20)
Movement in working capital	6,159	7,655	1,899	(13,890)
Movement in non-current provisions	1,937	(166)	(8)	(380)
Cash flow from operations	**15,246**	**20,808**	**19,107**	**835**
Net cash flow from investments	(6,596)	(11,469)	(9,617)	(45,223)
Cash flow before financing	**8,650**	**9,339**	**9,490**	**(44,388)**
PDC repaid				(8,500)
Interest paid	(2,612)	(2,694)	(2,674)	(2,777)
Interest received on cash balance	30	40	60	8
Drawdown of debt	622	0	2,900	8,500
Repayment of debt	(2,016)	(2,141)	(1,950)	(2,886)
Public dividend capital received	72	5,000	138	39,091
Dividends paid	(2,692)	(2,811)	(2,808)	(3,213)
Net cash (outflow)/inflow	**2,053**	**6,733**	**5,156**	**(14,164)**
Opening cash balance	**1,146**	**3,199**	**9,932**	**15,088**
Net cash (outflow)/inflow	**2,053**	**6,733**	**5,156**	**(14,164)**
Closing cash balance	**3,199**	**9,932**	**15,088**	**924**

5.2.4 Historical Achievement of Cost Improvement Programmes

In arriving at a financial breakeven position the Trust have delivered a significant level of Cost improvement plan (CIP) of which the overwhelming proportion has been from recurrent sources. Figure 5.1 below shows the total CIP achieved in the three years from 2010/11 to 2012/13. This is further analysed in Table 5.3.

Figure 5.1: CIPs 2009/10 to 2012/13

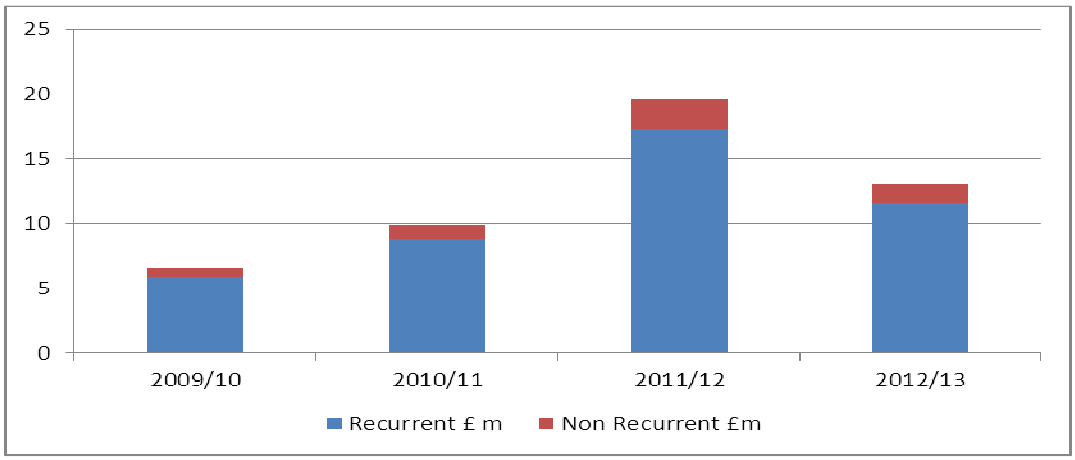


Table 5.4 CIP Analysis

Theme	Actual 2010/11 £000s	Actual 2011/12 £000s	Actual 2012/13 £000s
Pay savings (including service re-design, increased productivity and efficiency)	5,508	14,645	10,197
Non-pay savings (including improved procurement)	3,564	3,993	2,458
Income generation	829	962	467
Total	**9,901**	**19,600**	**13,120**
% of Income	4.9%	6.8%	4.7%
% of Costs	5.0%	6.7%	
Target CIP	12,500	19,600	13,100
% Achieved against Target	79.2%	100.0%	100%
Shortfall	2,599	0	0

5.2.5 Capital expenditure

Table 5.4 shows the value and funding sources of capital expenditure in the three years to 31 March 2013 together with a projection for 2013/14.

Table 5.5: Capital expenditure – 2010/11 to 2013/14

Source of Funding	Actual 2010/11 £'000s	Actual 2011/12 £'000s	Actual 2012/13 £'000s	Outturn 2013/14 £'000s	Major Schemes
Exchequer funded-operational (backlog maintenance)	6,353	8,966	9,676	4,342	Boiler House decentralisation (£1.3m), PFI (£2.9m)
Exchequer funded – strategic(service developments)	1,598	145	3,465	7,207	SMART working (£1.4m), Maternity (£2.5m), Ambulatory Centre (£2.5m), Education Centre (£1.5m)
PDC funded (non-repayable)	0	5,000	138	650	Electronic Patient Record (£5m), Maternity (£0.8m)
Charitable funded	82	75	118	20	
Total	**8,033**	**14,186**	**13,397**	**12,219**	
Capex in LTFM					
Maintenance	5,983	7,949	9,445	2,580	
Non Maintenance	1,598	5,145	2,203	7,857	
Donated asset	82	75	118	20	
Total Capex in LTFM	**7,663**	**13,169**	**11,766**	**10,457**	
Plus;					
Finance Leases	168	0	946	676	
PFI lifecycle	202	1,017	685	1,086	
Total	**8,033**	**14,186**	**13,397**	**12,219**	

In the last 3 years the Capex spend has averaged at £ 11.8 m per annum of which £ 10.0 has been funded from internal resources.

5.3 Current performance of the Trust

The expected financial performance for the Trust is shown in the forecast figures contained in table 5.1 above. In achieving this the Trust has a cost improvement plan totalling £ 15m.

As at the completion of month 9 of the current financial year (December 2013) the Trust is reporting an expected outturn surplus of £ 1m. The delivery of the financial position of is predicated upon the delivery of the CIP target.

- CIP

In the nine months to December 2013, 52 % of the profiled CIP target has been achieved, based on the best information available at the point of reporting. The value of the year-to-date shortfall against target is £5.2m.

The latest revised forecast achievement against the £ 15m programme is £ 7.33m , a £ 7.64m shortfall against target. Note: this does not take account of activity performance above contract levels.

The table below shows the degree to which the Women, Children and Families (WCF) division has performed as at month 9.

Table 5.6 - CIP performance for the WCF division

	Plan 2013/14	Plan YTD	Actual YTD	Variance from plan	YTD delivered % of profiled plan
	£,000	£,000	£,000	£,000	%
Women Children & Families	1,238	826	485	-341	59%

5.4 Capital affordability

5.4.1 Pre construction and project costs

The Trust anticipate that planning and OBC development costs will be expensed during the 2013/14 finance year. Although no budget has been formally developed the costs of producing the FBC will be set against the Trust's internal capital budget. Similarly the project management costs during the construction phase in 2014/15 and 2015/16 will be covered by internal capital.

5.4.2 Backlog maintenance

The Trust have a significant programme of backlog maintenance planned for the next 5 years and have notionally allocated £ 2m per annum to the Maternity and neonatal facilities, giving a total expected spend of £ 10m over the 5 year LTFM period.

If the project does not proceed the allocated amount would still need to be spent on a range of issues as indicated by the table 3.1 above.

As recognised in the Economic Case £ 1,650 k of this would be spent on areas where there was potentially no visible or measurable patient benefit, eg decant and double decant costs associated with those works.

If the Trust did carry out the refurbishment project, the schedule of backlog maintenance would be revised to harmonise it with the refurbishment project and to ensure that CRL was not spent on areas where there is no directly measurable patient benefit. This will be in line with the principles adopted when the preferred option was chosen whereby decant costs were almost totally eliminated.

5.4.3 Construction Project

In line with the form OB1 for the preferred option (Appendix 8) the project cash flows would be as follows :-

Table 5.7: Project cash flow (inc VAT)

	Buildings	Equipment	Project Spend £	% of annual £ 10m CRL
2014/15	3,489,115		3,489,115	35%
2015/16	6,216,902	135,009	6,351,911	64%
2016/17	156,809		156,809	1%
	9,862,826	135,009	9,997,835	

Based on an expected average annual Capital Resource Limit (CRL) for the Trust of £ 10m, the Trust do not believe that the project can be afforded from internal capital. To do so would mean committing up to 64% of the Trust's CRL to a single project in 2015/16 which is not regarded as practical given the other known/anticipated calls on these resources.

To fund the capital spend the Trust therefore need to obtain external funding either via a further allocation of Public Dividend Capital (PDC) or via a Capital Investment Loan (CIL).

5.5 Revenue affordability

The revenue affordability will be measured both in terms of the impact on the Income & Expenditure account and the impact on the Cash Flow as measured within the LTFM period. To assess this, the Trust have developed a range of financial models and the operation of these has been detailed in the "Finance annex" to this OBC.

In order to judge the affordability of the preferred option of refurbishing the existing space, the Trust have compared the operating position for the "Do Minimum" option with the operating position for the "Refurbishment option" which therefore shows the incremental income and costs associated with carrying out the refurbishment option.

The Trust regards any position that shows an aggregate surplus of income over expenditure measured over the LTFM period as affordable in terms of the Income and Expenditure account.

The cash flow position related to the option is then considered in conjunction with the funding method to ensure that the proposal is also affordable in cash terms.

Sensitivity analysis

The Trust has looked at a number of variants of the preferred option with different levels of activity as follows :-

- Preferred option “Base case” reaching 4,707 deliveries by 2108/19
- Preferred option “Low growth” case reaching 4,478 deliveries by 2018/19
- Preferred option “High growth” case reaching 5,000 deliveries by 2018/19

These models have been produced in both Real (un inflated) and at Nominal (inflated) terms. The Real tables indicate the scale of the long term gain to the Trust of undertaking the Refurbishment whereas the Nominal tables indicate the level of CIP that would be needed for the Trust to continue to meet its breakeven position.

5.6 Base case

The base case would see the Trust completing the refurbishment in March 2016 and growing activity during the 3 successive years from the current level of 4,018 deliveries up to a maximum of 4,707 deliveries in 2018/19. The figures in the tables below reflect the incremental income and costs that arise when comparing the “Do Minimum” option with doing the “Refurbishment” option.

For the purposes of the model the key assumptions in the Base case are:-

- Deliveries rising up to 4,707
- NICU operating at 91% occupancy from April 2016
- No change in the case mix
- Midwife/delivery ratio of 1:30 from April 2016
- Financed using a CIL over 25 years (per guidance)

5.6.1 Activity growth

In line with agreed CCG growth assumptions none of the increased activity will come from natural population growth and therefore all growth will have to derive from deliveries that would have otherwise taken place at other local provider units.

In line with the analysis contained in the finance annex the Trust anticipate the following level of activity transfer to Whittington Health analysed by CCG :-

Table 5.8 - Base case potential activity transfer by CCG (deliveries)

	2016/17	2017/18	2018/19	Total
Haringey CCG	150	121	38	309
Islington CCG	100	72	21	193
	250	193	59	502
Other CCGs	92	73	22	187
Annual activity transfer	342	266	81	689
Cumulative activity transfer	342	608	689	

The activity transfer related to the Haringey and Islington CCGs is anticipated to come from the following alternative providers :-

Table 5.9 - Base case activity transfer by provider (deliveries)

Activity transfer from	Haringey	Islington	Total
North Middx Hospital	204		204
University College Hospital	42	167	209
Royal Free		6	6
Homerton Hospital	19	8	27
Other	44	12	56
	309	193	502

The NICU will have an additional 4 cots and is expected to continue to work at its current level of 91% cot occupancy. Part of the increased activity will derive from the growth in activity in the Maternity department and the balance is expected to come from taking an increased number of transfers from inside and outside the existing referral network.

Table 5.10 - Base case activity growth for NICU

NICU Cot days	2016/17	2017/18	2018/19
Whittington health current activity	7,624	7,624	7,624
Further internal growth	649	1,154	1,307
	8,273	8,778	8,931
From perinatal network	677	172	19
Cot days at 91% capacity	8,950	8,950	8,950

The rise in intermediate care days and excess bed days will be in line with the growth in the number of deliveries.

5.6.2 Revenue affordability

The tables below indicate the incremental impact on the Trust of conducting the refurbishment at the Base case level of activity. The figures do not include either cost inflation or tariff deflation :-

Table 5.11: Base Case Income & Expenditure comparison (with no inflation)

	Base	Build phase		Growth phase			Post growth	
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
Deliveries	4,018	4,018	4,018	4,360	4,626	4,707	4,707	4,707
Increased deliveries				342	608	689	689	689
Increased cot days				1,326	1,326	1,326	1,326	1,326
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
Increased income			394	2,967	4,183	4,527	4,527	4,527
Increased cost			(90)	(1,431)	(2,594)	(3,314)	(3,314)	(3,314)
EBITDA			304	1,536	1,589	1,213	1,213	1,213
Depreciation				(206)	(206)	(206)	(206)	(206)
Interest & cap charges		(18)	(206)	(168)	(156)	(163)	(170)	(177)
Net position		(18)	98	1,162	1,227	844	837	830

The project makes a positive contribution after covering its own financing costs and it therefore regarded by the Trust as affordable on that basis. For a fuller commentary on these figures please refer to the Financial Annex.

The same model has then been subjected to tariff deflation and cost inflation factors show at the head of the table, which produces the following result:-

Table 5.12: Base Case Income & Expenditure comparison (with inflation)

	Base	Build phase		Growth phase			Post growth	
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
Tariff deflation		-1.5%	-0.2%	-0.2%	-0.2%	-0.2%	0%	0%
Pay inflation		2.9%	3.3%	3.5%	3.5%	3.5%	0%	0%
Cost inflation		6.0%	6.0%	6.0%	6.0%	6.0%	0%	0%
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
Increased income			387	2,911	4,096	4,423	4,423	4,423
Increased cost			(97)	(1,597)	(3,036)	(4,030)	(4,030)	(4,030)
EBITDA			290	1,314	1,060	393	393	393
Depreciation				(206)	(206)	(206)	(206)	(206)
Interest & cap charges		(18)	(206)	(168)	(156)	(163)	(170)	(177)
Net position		(18)	84	940	698	24	17	10

As measured over the 5 year LTFM planning period the refurbished service provides an aggregate contribution to the Trust's CIPs of £ 1,728k

The annual "Net position" figures represent the gain/loss that will be produced in each year. Any loss will need to be covered, either by the service or by the wider Trust, to ensure that the service breaks even and therefore has no further impact on the Trust.

With the workforce model comprising the required level of staffing to operate the service (at the midwife to birth ratio of 1:30) there is little room within the model to reduce staff costs therefore any CIP would have to come either from non pay savings or from the wider Trust.

An analysis of affordability in terms of the Trust's cash flow is shown in table 5.16 below.

Table 5.13: Base Case Cash flow forecast

	Base	**Build phase**		**Growth phase**			**Post growth**	
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
EBITDA			290	1,314	1,060	393	393	393
Interest		(18)	(204)					
Cap charges			(2)	11	24	17	10	2
CIL repayments Inc interest				(580)	(580)	(580)	(580)	(580)
Net cash flow		(18)	84	745	504	(170)	(177)	(185)

Over the LTFM planning period the project generates an aggregate positive cash inflow of £ 1,145k. Any interest income that the Trust might generate from the annual cash surpluses has been ignored within this business case. If however the Trust were able to secure PDC then the cash flow would be improved per table 5.15.

Table 5.14: Base Case Cash flow forecast with PDC

	Base	**Build phase**		**Growth phase**			**Post growth**	
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
EBITDA			290	1,314	1,060	393	393	393
Interest & cap charges			(61)	(238)	(381)	(304)	(297)	(290)
Net cash flow			229	1,076	679	89	96	103

Cash flow over the 5 year LTFM planning period is significantly improved by taking up the PDC funding alternative.

5.7 "Low growth" model

In addition to looking at the base case, the Trust have looked at a "low growth" model which takes the number of deliveries only up to 4,478 as compared to the base case of 4,707. The figures in the tables below reflect the incremental income and costs that arise when comparing the "Do Minimum" option with doing the "Refurbishment" option.

For the purposes of the model all other assumptions remain the same as the Base case.

5.7.1 Activity growth

Under the Low growth case, and in line with the analysis contained in the finance annex, the Trust anticipate the following level of activity transfer to Whittington Health analysed by CCG :-

Table 5.15 - Low growth case potential activity transfer by CCG (Deliveries)

	2016/17	2017/18	2018/19	Total
Haringey CCG	109	69	30	208
Islington CCG	71	43	14	128
	180	112	44	336
Other CCGs	66	41	17	124
Annual activity transfer	246	153	61	460
Cumulative activity transfer	246	399	460	

The activity transfer related to the Haringey and Islington CCGs is anticipated to come from the following alternative providers :-

Table 5.16 - Low growth model potential activity transfer by provider (deliveries)

Activity transfer from	Haringey	Islington	Total
North Middx Hospital	137		137
University College Hospital	28	110	138
Royal Free		4	4
Homerton Hospital	13	5	18
Other	30	9	39
	208	128	336

The Neonatal Unit will have an additional 4 cots and is expected to continue to work at its current level of 91% cot occupancy. Part of the increased activity will derive from the growth in activity in the Maternity department and the balance is expected to come from taking an increased number of transfers from inside and outside the existing referral network.

Table 5.17 - Low growth case activity growth in NICU

NICU Cot days	2016/17	2017/18	2018/19
Whittington health current activity	7,624	7,624	7,624
Further internal growth	467	757	873
	8,091	8,381	8,497
From perinatal network	859	569	453
Cot days at 91% capacity	8,950	8,950	8,950

5.7.2 Revenue affordability

The tables below indicate the incremental impact on the Trust of conducting the refurbishment at the Low growth case level of activity. The figures do not include either cost inflation or tariff deflation :-

Table 5.18: Low growth Case Income & Expenditure comparison (*with no inflation*)

	Base	Build phase		Growth phase			Post growth	
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Deliveries	4,018	4,018	4,018	4,264	4,417	4,478	4,478	4,478
Increased delivery				246	399	460	460	460
Increased cot days				1,326	1,326	1,326	1,326	1,326
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Increased income			283	2,327	3,045	3,303	3,303	3,303
Increased cost			(80)	(1,120)	(2,057)	(2,700)	(2,700)	(2,700)
EBITDA			203	1,207	988	603	603	603
Depreciation				(206)	(206)	(206)	(206)	(206)
Interest & cap charges		(18)	(206)	(168)	(156)	(163)	(170)	(177)
Net position		(18)	(3)	833	626	234	227	220

The Low growth scenario still has a positive aggregate Income & expenditure balance of £ 1,672k for the LTFM period with only minor losses on the following periods and on this basis is seen as affordable.

Table 5.19: Low growth Case Income & Expenditure comparison (with inflation)

	Base	Build phase		Growth phase			Post growth	
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Tariff deflation		-1.5%	-0.2%	-0.2%	-0.2%	-0.2%	0%	0%
Pay inflation		2.9%	3.3%	3.5%	3.5%	3.5%	0%	0%
Cost inflation		6.0%	6.0%	6.0%	6.0%	6.0%	0%	0%
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
Increased income			279	2,283	2,981	3,228	3,228	3,228
Increased cost			(87)	(1,240)	(2,383)	(3,248)	(3,248)	(3,248)
EBITDA			192	1,043	598	(20)	(20)	(20)
Depreciation				(206)	(206)	(206)	(206)	(206)
Interest & cap charges		(18)	(206)	(168)	(156)	(163)	(170)	(177)
Net position		(18)	(14)	669	236	(389)	(396)	(403)

With lower growth, the amount of CIP that would have to be delivered would be challenging for the Trust as would the need to generate additional cash in order to cover the negative contribution and loan repayments.

Table 5.20: Low growth case Cash flow forecast

	Base	Build phase		Growth phase			Post growth	
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
EBITDA			192	1,043	598	(20)	(20)	(20)
Interest		(18)	(204)					
Cap charges			(2)	11	24	17	10	2
CIL repayments Inc interest				(580)	(580)	(580)	(580)	(580)
Net cash flow		(18)	(14)	474	42	(583)	(590)	(598)

5.8 "High growth" model

In addition to the low growth case the Trust have looked at a "High growth" model which takes the number of deliveries up to 5,000 as compared to the base case of 4,707. The figures in the table below reflect the incremental income and costs that arise when comparing the "Do Minimum" option with doing the "Refurbishment" option.

For the purposes of the model all other assumptions remain the same as the Base case.

5.8.1 Activity growth

Under the High growth case, and in line with the analysis contained in the finance annex, the Trust anticipate the following level of activity transfer to Whittington Health analysed by CCG :-

Table 5.21 - High growth case potential activity transfer by CCG

	2016/17	**2017/18**	**2018/19**	
Haringey CCG	205	179	59	443
Islington CCG	133	104	33	270
	338	283	92	713
Other CCGs	124	106	39	269
Annual activity transfer	462	389	131	982
Cumulative activity transfer	462	851	982	

The activity transfer related to the Haringey and Islington CCGs is anticipated to come from the following alternative providers :-

Table 5.22 - High growth case potential transfer by provider

Activity transfer from	Haringey	Islington	Total
North Middx Hospital	293		293
University College Hospital	60	233	293
Royal Free		9	9
Homerton Hospital	28	11	39
Other	62	17	79
	443	270	714

The Neonatal unit will have an additional 4 cots and is expected to continue to work at its current level of 91% cot occupancy. Part of the increased activity will derive from the growth in activity in the Maternity department and the balance is expected to come from taking an increased number of transfers from inside and outside the existing referral network.

Table 5.23 - High growth case activity growth in NICU

NICU Cot days	**2016/17**	**2017/18**	**2018/19**
Whittington health current activity	7,624	7,624	7,624
Further internal growth	876	1,615	1,863
	8,500	9,239	9,487
From perinatal network	450	(289)	(537)
Cot days at 91% capacity	8,950	8,950	8,950

In this caser the service may need to reduce its intake from the wider network in order to continue at its existing level of occupancy.

5.8.2 Revenue affordability

The tables below indicate the incremental impact on the Trust of conducting the refurbishment at the High growth case level of activity. The figures do not include either cost inflation or tariff deflation :-

Table 5.24: High growth Case Income & Expenditure comparison (with no inflation)

	Base	Build phase		Growth phase			Post growth	
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
Deliveries	4,018	4,018	4,018	4,480	4,869	5,000	5,000	5,000
Increased delivery				462	851	982	982	982
Increased cot days				1,326	1,326	1,326	1,326	1,326
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
Increased income			533	3,750	5,539	6,094	6,094	6,094
Increased cost			(130)	(1,786)	(3,437)	(4,456)	(4,456)	(4,456)
EBITDA			403	1,964	2,102	1,638	1,638	1,638
Depreciation				(206)	(206)	(206)	(206)	(206)
Interest & cap charges		(18)	(206)	(168)	(156)	(163)	(170)	(177)
Net position		(18)	197	1,590	1,740	1,269	1,262	1,255

With its continuous positive Income & expenditure balances the High growth position is regarded as affordable.

Table 5.25: High growth Case Income & Expenditure comparison (with inflation)

	Base	Build phase		Growth phase			Post growth	
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
Tariff deflation		-1.5%	-0.2%	-0.2%	-0.2%	-0.2%	0%	0%
Pay inflation		2.9%	3.3%	3.5%	3.5%	3.5%	0%	0%
Cost inflation		6.0%	6.0%	6.0%	6.0%	6.0%	0%	0%
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
Increased income			524	3,680	5,423	5,955	5,955	5,955
Increased cost			(130)	(1,786)	(4,045)	(5,452)	(5,452)	(5,452)
EBITDA			394	1,894	1,378	503	503	503
Depreciation				(206)	(206)	(206)	(206)	(206)
Interest & cap charges		(18)	(206)	(168)	(156)	(163)	(170)	(177)
Net position		(18)	188	1,520	1,016	134	127	120

With higher growth, completing the project would contribute towards the overall trust CIP plans. Similarly the project would provide positive cash flow to the Trust throughout the LTFM period.

Table 5.26: High growth case Cash flow forecast

	Base	Build phase		Growth phase			Post growth	
	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
EBITDA			394	1,894	1,378	503	503	503
Interest		(18)	(204)					
Cap charges			(2)	11	24	17	10	2
CIL repayments				(580)	(580)	(580)	(580)	(580)
Inc interest								
Net cash flow		(18)	188	1,325	822	(60)	(67)	(75)

5.9 Break even point

The long term break even point, in terms of the number of deliveries, has been measured by comparing the un inflated Income & expenditure figures in 2020/21 which is at a point when all of the issues related to the growth period have settled down. Under these terms the breakeven point is very close to the Low growth case of 4,478 deliveries. At this level however the Trust would be required to generate a significant level of free cash to be able make the CIL repayments.

5.10 Long Term Financial Plan (LTFM)

The most recently prepared LTFM generated by the Trust includes the (draft) financial impact of this business case when taken at the Base case level of deliveries of 4,707.

With the Maternity OBC figures included, the LTFM Balance Sheet and Income & expenditure statements are as follows :-

Table 5.27 Financial Position five year projections

Table 6.22 Financial Position five year projections – 2013/14 to 2018/19						
Balance Sheet	**2013/14 £000**	**2014/15 £000**	**2015/16 £000**	**2016/17 £000**	**2017/18 £000**	**2018/19 £000**
Total non-current assets	**172,070**	**169,244**	**178,460**	**177,586**	**177,251**	**176,917**
Current assets						
Inventories	1,319	1,332	1,281	1,238	1,195	1,152
Receivables	20,299	19,619	19,722	21,134	21,898	22,847
Cash at bank and in hand	924	(1,051)	(3,106)	(5,042)	(6,925)	(8,734)
Total current assets	**22,767**	**20,374**	**18,325**	**17,513**	**16,151**	**15,184**
Total current liabilities	**(34,003)**	**(33,276)**	**(33,696)**	**(34,028)**	**(34,742)**	**(34,175)**
Net current assets (liabilities)	**(11,236)**	**(12,903)**	**(15,371)**	**(16,515)**	**(18,591)**	**(18,991)**
Total assets less current liabilities	**160,834**	**156,342**	**163,089**	**161,071**	**158,660**	**157,926**
Total non-current liabilities	**(42,795)**	**(40,210)**	**(46,957)**	**(44,941)**	**(42,528)**	**(41,795)**
Total assets employed	**118,040**	**116,132**	**116,132**	**116,130**	**116,132**	**116,131**
Taxpayers' equity						
Public dividend capital	83,935	83,935	83,935	83,935	83,935	83,935
Retained earnings	5,331	5,331	5,330	5,330	5,330	5,330
Revaluation reserve	28,774	26,866	26,867	26,865	26,867	26,866
Donated asset reserve	0	0	0	0	0	0
Total taxpayers' equity	**118,040**	**116,132**	**116,132**	**116,130**	**116,132**	**116,131**

Table 5.28 Income and Expenditure 2013/4 – 2017/18

Table 6.16 Income and expenditure 2013/14 – 2017/18

Income & Expenditure Statement	2013/14 £000	2014/15 £000	2015/16 £000	2016/17 £000	2017/18 £000	2018/19 £000
Income						
Protected Mandatory Clinical Revenue	252,153	258,009	270,288	275,282	277,999	279,662
Non-Protected/Non Mandatory Clinica	1,955	1,926	1,922	1,918	1,914	1,910
Other Operating Revenue	33,913	24,066	27,954	27,954	27,954	27,954
Total Operating Revenue and Income	**288,021**	**284,001**	**300,164**	**305,154**	**307,867**	**309,527**
Expenses						
Pay Costs	(187,234)	(186,281)	(189,942)	(185,800)	(179,908)	(171,245)
Non-Pay Costs	(85,661)	(79,974)	(92,361)	(100,914)	(110,158)	(120,094)
Total Operating Expenses	**(272,895)**	**(266,256)**	**(282,303)**	**(286,714)**	**(290,066)**	**(291,339)**
Adjustment for Donated Asset Income						
EBITDA	**15,126**	**17,746**	**17,861**	**18,440**	**17,801**	**18,188**
Depreciation	(9,020)	(9,952)	(9,888)	(10,207)	(9,920)	(10,110)
PDC Dividends Payable	(3,350)	(4,100)	(4,137)	(4,206)	(4,273)	(4,337)
Interest Expenses	(2,732)	(3,015)	(3,236)	(3,291)	(3,316)	(3,359)
Interest Receiveable	8	4	6	(199)	(292)	(382)
Impairment Losses	(32)	(683)	(606)	(538)	0	0
Gain/(loss) on disposals	0	0	0	0	0	0
Net Surplus/(Deficit)	**10**	**(0)**	**(0)**	**(0)**	**0**	**(0)**
Less Impairment	32	683	606	538	0	0
Less IFRIC 12 IFRS adjustment						
Restatement/Donated Assets						
Adjusted Net Surplus	**42**	**683**	**606**	**538**	**0**	**(0)**

15.10.1 Long term CIP plan

In order to achieve the Net surplus projected within the LTFM, the Trust have to achieve the following CIP plan for the Trust as a whole:-

Table 5.29 Forecast CIP by theme

Table 6.17 Table Forecast CIP by theme and pay/non-pay- 2013/14 to 2018/19

`	2013/14 £000	2014/15 £000	2015/16 £000	2016/17 £000	2017/18 £000	2018/19 £000	2013-2019 £000
Staff cost reductions (Unidentified)		15,658	10,014	13,788	14,597	16,799	70,856
Staff cost reductions (skill mix and headcount savings)	10,220						10,220
Drug cost savings	550						550
Clinical supplies & services	749						749
Other cost savings	3,481						3,481
Total CIP target (Real)	15,000	15,217	9,425	12,539	12,826	14,261	
Total CIP target (Nominal)	**15,000**	**15,658**	**10,014**	**13,788**	**14,597**	**16,799**	**85,856**
% of projected Income	5.3%	9.5%	13.3%	17.8%	22.4%	27.7%	
% of projected Expenditure	5.3%	9.7%	13.6%	18.1%	22.8%	28.0%	
In Year CIP as % of projected Expenditure	5.3%	4.5%	4.8%	4.7%	4.8%	5.6%	

The table below shows the degree to which these have been affected by the inclusion of the maternity OBC :-

Table 5.30 - Maternity CIP included in LTFM

	13/14 £,000	14/15 £,000	15/16 £,000	16/17 £,000	17/18 £,000	18/19 £,000
CIP for the Trust (Real)	15,000	15,217	9,425	12,539	12,826	14,261
Maternity OBC (draft)		(18)	(123)	(100)	944	557
CIP pre maternity	15,000	15,199	9,602	12,439	13,770	14,818
Percentage of CIP		0.1%	1.2%	0.8%		

The Trust do not believe that the inclusion of the (draft) losses/gains attributable to the maternity OBC are material in terms of the requirement for the Trust to make trust wide CIPs.

15.10.2 Revision to CIP

The losses and gains generated by the Maternity OBC figures have been updated since the original figures (15.1 above) were included in the LTFM model. The table below shows the revised figures compared to those originally included.

Table 5.31 - Revised maternity OBC

	13/14 £,000	14/15 £,000	15/16 £,000	16/17 £,000	17/18 £,000	18/19 £,000
Maternity OBC (draft)		*(18)*	*(123)*	*(100)*	*944*	*557*
Revised figures :-						
High growth case		(18)	197	1,590	1,740	1,269
Base case		(18)	98	1,162	1,227	844
Low growth case		(18)	(3)	833	626	234

In the vast majority of situations the revised losses / gains are more beneficial than those included in the LTFM and therefore the Trust do not consider that the ability of the Trust to achieve its CIP plans would be adversely affected by carrying out the Refurbishment.

5.10.3 Financial risk rating

Based on this version of the LTFM the Trust's risk rating is as follows :-

Table 5.32: Trust Risk rating

Continuity of Service Risk Rating						
Risk Rating Category	**1**	**2**	**3**	**4**		
Liquidity Ratio (Days)	<-14	-14	-7	0		
Capital service capacity (times)	<1.25	1.25	1.75	2.50		
Continuity of Service Risk Rating (Adjusted CSSR)	**Outturn** Mar - 14	**Forecast** Mar - 15	**Forecast** Mar - 16	**Forecast** Mar - 17	**Forecast** Mar - 18	**Forecast** Mar - 19
Liquid Ratio (Days)						
Current assets	27	23	20	18	18	16
Inventories	1	1	1	1	1	1
PFI prepayments and assets held for sale	0	0	0	0	0	(0)
Current liabilities	(37)	(34)	(33)	(34)	(34)	(35)
Days	360	360	360	360	360	360
Operating expenses	(273)	(266)	(282)	(287)	(290)	(291)
Fully Committed Working Capital Facility (+)						
Liquidity ratio (days) - opening liquidity	-13.8	-17.3	-18.8	-21.4	-22.3	-24.4
	Outturn Mar - 14	**Forecast** Mar - 15	**Forecast** Mar - 16	**Forecast** Mar - 17	**Forecast** Mar - 18	**Forecast** Mar - 19
Capital servicing capacity (times)						
Interest payable (-ve)(£m)	(3)	(3)	(3)	(3)	(4)	(4)
Debt repayment (-ve)(£m)	(3)	(5)	(4)	(4)	(4)	(4)
PDC dividend (-ve)(£m)	(3)	(4)	(4)	(4)	(4)	(4)
PDC repayment (-ve)(£m)	(9)	0	0	0	0	0
Surplus/(Deficit) from operations	0	0	0	0	0	0
Adjustment for donated asset income	0	0	0	0	0	0
EBITDA	15	18	18	18	18	18
Interest receivable (+ve)(£m)	0	0	0	0	0	0
Investment adjustment (+ve/-ve)(£m)	0	0	0	0	0	0
PFI support (+ve)(£m)	0	0	0	0	0	0
Surplus available	15	18	18	18	18	18
Capital servicing capacity (times)	0.9	1.5	1.5	1.5	1.4	1.5
Scoring - (uses opening liquidity)						
Liquidity ratio score	*2.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Capital servicing capacity score	*1.00*	*2.00*	*2.00*	*2.00*	*2.00*	*2.00*
OVERALL Continuity of Service Risk Rating	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*

The inclusion of the Maternity business case does not impact negatively on the CSSR risk rating. This remains the case under the revised CSRR framework also.

5.11 Funding alternatives

In looking to identify the most appropriate form of funding for the project the Trust will look both at the financing cost issues and the long term cash impact on the Trust. The Trust are aware that TDA guidance states that the primary source of additional capital is through Capital Investment Loans and that any grant of PDC will only occur in exceptional circumstances.

5.11.1 Financing costs

The assessment of financing costs set out below is based on comparing the two alternatives using the following assumptions :

- **PDC**

When assessing the total financing cost of the capital project under PDC, the following assumptions have been made :-

- Capital spend during the construction phase is identical for both funding methods and has therefore been ignored.
- The capital charge is based on 3.5% of the average net asset value on the Balance Sheet for that year.
- Depreciation is set at 46 years for the buildings and at 10 years for the equipment. There is an assumed 10% initial impairment on the buildings at the point that they are brought in to use.
- The financing cost has been measured over a 46 year timeframe which is consistent with the CIL alternative.

- **CIL**

The comparative assumptions for taking out a Capital Investment Loan are :-

- The term of the loan is set at 25 years.
- Repayments are made in equal annual amounts (twice yearly) with the first payment in September 2016 after the construction project is completed. Each repayment will include an equal amount of interest and capital repayment.
- An interest rate of 3.13 % has been used based on the National Loans Fund rates, and the rate is fixed for the term of the loan.

Table 5.33: Total financing cost over 46 year period

	CIL	PDC
	£	£
Loan capital and interest paid at 3.13 %	14,488,700	
Capital charges at 3.5 %	2,235,673	7,169,244
	16,724,373	7,169,244
Discounted at 3.5% to NPV	10,340,150	4,440,087

With the CIL alternative the loan interest and capital require repayment over the 25 year term in equal instalments term. Capital charges will also be incurred during the period until the asset value has been fully depreciated.

With the PDC alternative the funding cost relates purely to the capital charges.

Based solely on the cost of finance, the Trust would therefore rank the PDC route as the most beneficial method for funding the project.

6 Management Case

6.1 Project Management and Organisation

6.1.1 Project Board Oversight and Governance

This outline business case sets out a preferred option which involves the construction of a new high tech core building and significant levels of refurbishment within a busy teaching hospital site that will continue to be fully operational throughout the construction period. Initial thought has been given to the construction phasing, project organisation and management structure to ensure, safety, smooth running, close control and minimal disruption. This will be further developed within the FBC.

This section outlines how the Trust anticipates managing the project implementation through to commissioning and opening, and then into the operational and post-project evaluation phases.

6.1.2 Project Governance Roles

The following roles will be in place for the delivery of the FBC, and throughout the construction and operation phases of the project:

- **Investment Decision Maker** – This role is occupied corporately by the Whittington Health Trust Board. The Trust Board has a scheme of delegation permitting, within defined limits, the Chairman and Chief Executive together to authorise urgent actions in order to progress the project within planned timescales. There is further delegation for the purpose of progressing the project to the Chief Finance Officer and the Director of Estates and Facilities.
- **Project Owner** – the Chief Operating Officer, as Senior Responsible Officer, retains personal accountability for project delivery.
- **Project Director** – Post OBC approval, a Project Director will be appointed, accountable to the Director of Estates and Facilities, who will be the point within the Trust for providing leadership and direction to the project for internal and external stakeholders.

6.1.3 Decision Making: Construction Programme

The Projector Director will be the decision-maker on behalf of the Trust regarding the progress of the phases of the Construction Programme, with particular reference to avoiding delays and protecting the business continuity of the Trust from avoidable interruption. Any matters with significant implications regarding the project objectives, beyond resolution by the Project Director, will be referred first to the Director of Estates and Facilities, through weekly supervision, or immediate intervention, if necessary; and secondly by reference to the monthly Estates Strategy Delivery Board (ESDB). Urgent decisions beyond the Project Director's delegated authority, requiring swift resolution to maintain programme, will be referred to the Chief Executive, Chief Operating Officer and/or Trust Chairman for determination within their powers as delegated by the Trust Board.

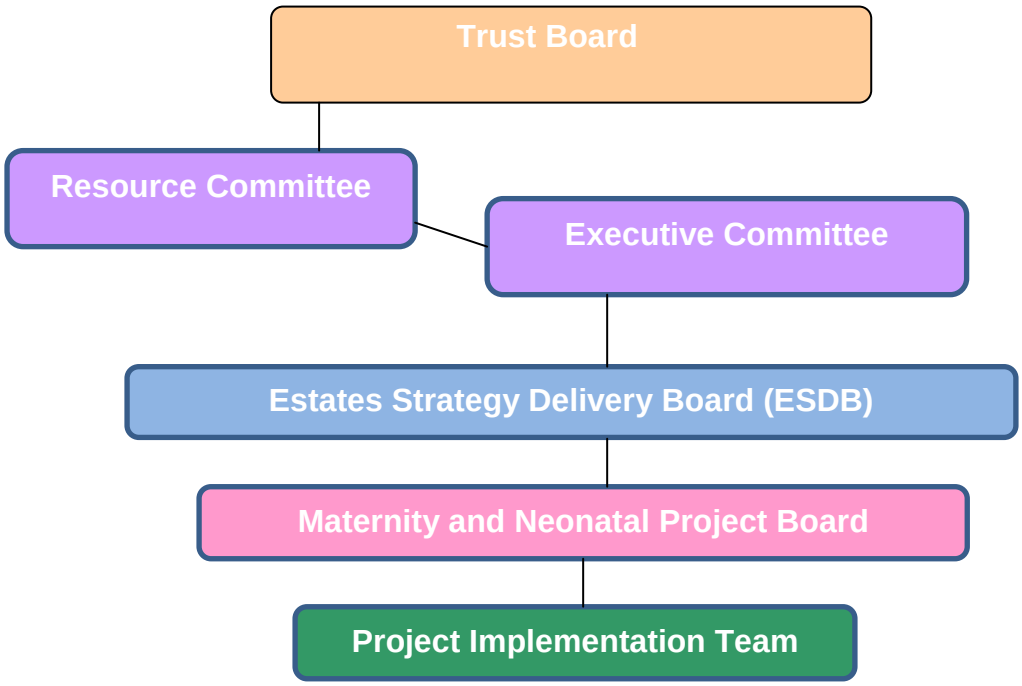
6.1.4 Delegated Authority

The Project Director will have delegated authority to act as the Trust Representative and point of contact in all client dealings, with professional advisors and contractors. The Project Director will retain responsibility for project progress, and it will be the duty of the

Project Director, to ensure that the Director of Estates and Facilities is kept informed of, and updated with, all relevant Programme issues as they occur.

Procedures for assessing and implementing changes to requirements beyond the "design freeze" encapsulated in the contract which impact on the delivery, design and/or cost of the scheme, will be referred to the Project Director, who will obtain approvals as appropriate. All such matters will be subject to the formal change control procedure and will be reported to the Estates Strategy Delivery Board. The Project Director will be supported by an internal organisation as shown in the organisation chart at Figure 6.1 below.

Figure 6.1: Whittington Health Project Organisation



6.1.5 Roles and Responsibilities

The main responsibilities for each of the roles directly relevant to the delivery of the project are as listed below. Support is provided by the requisite level of external advice.

Chief Operating Officer (Senior Responsible Officer)

- Accountable for the overall business assurance of the project, supported by the Project Director
- Ensures the project gives value for money
- Ensures a business case-focused approach
- Monitors the business risks to ensure that these are kept under control
- Assesses the impact of potential changes on the Business Case and Project Plan
- Ensures tolerances are set for the project
- Authorises expenditure and sets stage tolerances
- Approves the end stage report and lessons learnt report
- Organises and chairs Project Board meetings
- Briefs corporate management about project progress including programme;
- Recommends future action on the project to the Trust Board and Trust Development Authority, if the project tolerances are exceeded.
- Provides external interface with the TDA

Project Director

- Provides leadership and direction to the scheme for internal and external stakeholders
- Establishes or agrees the implementation programme, sub-programmes and related projects; advising on tolerances and dependencies
- Ensures that the aims of the programme and related projects continue to be aligned with evolving business needs
- Secures and protects project resources
- Monitors progress against project milestones and critical path analysis
- Ensures the realisation of benefits
- Chairs internal Project Team meetings
- Provides management, structures and processes for the project
- Leads on commercial negotiations
- Resolves or escalates project-specific issues
- Provides project budget management
- Undertakes Trust Board and ESDB reporting
- Provides internal and external communications with the public, staff and patients
- Interfaces with other local projects
- Maintains compliance with the Trust's clinical strategy and models of care
- Operates within the delegated decision making limits for the project
- Provides leadership and direction to the internal Project Team;
- Oversees change control procedures
- Oversees Trust compliance with project milestones
- Supervises the Project Management
- Manages business and project risks, including the development of contingency plans

Project Manager (may combine with Project Director)

- Ensure compliance with budget, programme, specification and standards
- Liaise with users
- Liaise with Trust Health and Safety and Fire Safety Managers and Representatives;
- Obtain detailed briefs from client departments
- Liaise with Construction Contractor
- Liaise, and co-ordinate the project, with the Project Director
- Commission refurbishment areas in association with the Commissioning Manager
- Undertake monitoring of the construction site including security arrangements (in liaison with the Trust's Local Security Management Specialist and Assistant Director of Estates) and the maintenance of safe access to the hospital premises
- Ensure noise control, dust control and related Trust infection control standards and protocols are complied with
- Ensure permit to work systems are operated and that the protocol for interrupting work is complied with
- Liaise with users, responding promptly to any concerns regarding the operation of their services
- Ensure procedures are applied to mitigate risks and to maintain the operation of services
- Report construction and decanting risks to the Project Director and put measures in place to reduce risk to retained services and ensure maintenance of the operation of these services
- Retain information relevant to, and participates in, the project evaluation process

- Liaise with the Commissioning Manager regarding assets and building familiarisation and training programmes
- Communicate Trust-wide changes to access and egress routes, both internal and external, arising during phases of the Construction Programme
- Monitor compliance with project management principles including co-ordination and document production for formal and informal meetings
- Monitor document control and governance compliance, escalating non-compliance issues directly to the Project Director
- Provide administrative/minute taking support to high level formal Project Committees
- Maintain and evolve the communications plan in conjunction with the Communication Team
- Produce presentational material
- Administer Change Control mechanisms
- Collate data and reports
- Arrange official openings and formal visits
- Liaises with the Facilities Team regarding permits to work, access and maintenance issues;
- Works with consultant design teams with respect to delegated elements of the project.
- Generates and maintains the Project Initiation Document for the implementation phases
- Manages the reviewable design data process
- Controls the development of Internal Design
- Co-ordinates external involvement in the commissioning committee process
- Acts for the Trust in pre-handover acceptance testing and snagging process
- Liaises with the Trust advisors on construction, technical and FM design issues
- Liaises with the contractor's management team on construction, technical and issues
- Liaises with the Project Accountant on project budgetary control
- Manages the Project Risks Register, risk management process and issues log
- Leads on technical issues
- Liaises with the local Planning Authority and Building Control
- Reports to the Estates Strategy Delivery Board through highlight Reports and stage assessments
- Manages the interface with the contractor's management team during the construction phase of the project including, holding them to account for programme progress
- Manages the construction phase programme.

Commissioning Manager:

- Liaises with users on the development and operation of protocols for undertaking construction activity within the health care setting
- Develops the commissioning programme in consultation with internal stakeholders
- Develops the move-in programme in consultation with internal stakeholders
- Develops risks register associated with the move-in programme
- Liaises with statutory bodies, internal inspectorates and subject experts
- Manages the furniture and equipment budget
- Ensures furniture and equipment is procured in line with the commissioning programme
- Develops both clinical and non clinical operational policies in conjunction with departmental heads

- Monitors completion of the Operations and Methods (O&M) Manuals, including the Health and Safety File, including archiving and handover at the commencement of the operation phase
- Contributes to the joint programme of acceptance testing
- Prepares the Lessons Learned Report and any follow on actions required
- Prepares the End Project Report and Project Closure Notification
- Controls health care planning compliance
- Liaises with Communications regarding key milestones and general construction activities

Secretarial and Administrative Support:

- Provides secretarial support to the Project Director
- Provides secretarial support to the Project Team
- Assists with the compilation of reports
- Maintains filing for the Project Team in line with the Project Assurance process
- Maintains the existing and new Data Room files
- Drafts minutes and notes
- Undertakes general administrative duties: arranging meetings and refreshments, photocopying, binding, booking and preparing meeting rooms, telephone answering, message service, diary co-ordination etc.

6.1.6 Estates Strategy Delivery Board

The Estates Strategy Delivery Board reports to the Trust Executive Committee. The purpose of the Estates Strategy Delivery Board (ESDB) is to provide oversight and governance on the delivery of the Estates Strategy and to provide assurance to the Resources Committee that the aims and objectives are being delivered.

Its functions include:

- Consideration and approval of all Estate space transactions to ensure that they support strategic objectives,
- Progressing and controlling major developments and any disposal proposals contained in the Estates Strategy,
- Progressing and controlling Space and Estate management proposals contained in the Estates strategy which support the key objectives, and
- Approving communications plans

The membership of the Estates Strategy Delivery Board is:

▪ Chief Executive - Senior Responsible Officer	Yi Mien Koh
▪ Chief Operating Officer	Lee Martin
▪ Chief Financial Officer	Simon Wombwell
▪ Director of Organisational Development	Jo Ridgway
▪ Director of Estates and Facilities	Phil Ient
▪ Assistant Director of Estates and Facilities (x2)	Sophie Harrison Mike Veale

6.1.7 Maternity and Neonatal Project Board

The Maternity and Neonatal Project Board reports to the Estates Strategy Delivery Board. The main purpose of the Project Board to date has been to oversee the development of a Whittington Health strategy for maternity and neonatal services and the development of an OBC to support the realisation of the strategy. The Board will now oversee the preparation, implementation of the FBC. Key to the role of the Steering

Board will be to ensure the engagement of stakeholders, including the involvement and engagement of women and their families

The membership of the Maternity and Neonatal Project Board will include:

- Chief Operating Officer (Chair)
- Chief Financial Officer
- Divisional Director for Women, Children and Families (WCF)
- Director of Operation WCF
- Clinical Lead Neonatology
- Head of Midwifery
- Director of Communications
- Director of Estates and Facilities
- Project Director
- Commissioning representation
- User representation
- GP representation

6.1.7 Project Implementation Programme

The key milestones for the preferred option are as follows:

Table 6.1 Project Timetable

Milestone	**Date**
OBC submission	February 2014
OBC approval by TDA	March 2014
Appointment of FBC Design Team	April 2014
Detailed design complete	June 2014
FBC submission	July 2014
FBC approved and contract signed	August 2014
Construction work commences	Jan 2015
Construction work completed	March 2016

The timetable will be reviewed at each stage of the implementation process.

6.1.8 Costs of Project Implementation

The Trust has identified a number of cost associated with the project implementation structure, including: a Project Director; Service Transformation Manager; Design and QS support; and Finance support.

6.1.9 Approvals and Letters of Support

(To be added)

6.2 Communications

Communications, both with internal and external stakeholders is a key component to managing the successful delivery of this project as the creation of the new core and refurbishment will take place whilst the services continue to operate.

There are a number of considerations for this communications work, which include:

- Communicating the implementation of the preferred option in a way that is positive, proactive, inclusive and timely, ensuring that all stakeholders understand the project and the nature of the work being undertaken.
- Communicating with existing services during the build phase to minimise misunderstanding.
- Ensuring all communications work is aligned to the Trust's communication strategy.

6.3 Use of Advisors

Special advisers have been used in a timely and cost-effective manner for the development of the OBC. The Trust used the national service framework agreement to appoint the design team BDP, supported by Cyril Sweett,

6.4 Procurement Route

A decision on the procurement route will be made during the development of the Full Business Case.

6.5 Contract Management

Procurement guidance will be followed for the procurement process, with the support of professional advisors and appropriate NHS leads. During the process, the Project Director will be responsible for coordination of the clinical and other operational management requirements with those of the building contractors.

6.6 Change Management

A Service Transformation Manager will be appointed as part of the project team to work with the maternity and neonatal services to ensure all opportunities to maximise service benefits from the project are taken.

6.7 Risk and Risk Management

6.7.1 Introduction

It is a requirement of the Capital Investment Manual that a risk assessment should be produced for all projects seeking funding. This section of the OBC contains the findings of the Risk Assessment and subsequent risk management plans

The objective of the risk assessment is to identify risks to the successful delivery of the project.

The methodology used in the risk assessment is explained in detail in the subsequent sections of this report:

- Risk Management
- Optimism Bias

6.7.2 Risk Management

- **Risk Potential Assessment**

An initial risk potential assessment has been completed which indicates a low overall consequential impact (see Appendix 13). A Gateway Review will be initiated as part of the FBC development phase.

- **Risk Management**

Risk Management incorporates risk assessment, which is an ordered approach to risk analysis. The risks are logged and scored by matrix analysis to determine whether the levels of risk are acceptable. The risks are colour coded for easy identification of key risks.

Experience indicates that Risk Management is most effective if it is introduced at the earliest stages of the project with members of the project team involved. However, the process continues throughout the design and construction with reviews being undertaken at key stages.

Risk Management techniques offer a systematic approach to the identification, assessment and control of the significant risk factors affecting the progress of the project. Areas of high risk are reviewed to ensure that all reasonably practicable measures have been taken to mitigate them.

The Risk Management process is designed to ensure that as far as is reasonable:

- All significant risks are identified
- Risk exposure is understood and reduced to acceptable levels
- risk control measures are implemented
- Control measures are reviewed and managed to close out.

In accordance with the Capital Investment Manual, the risks and implementation issues of a capital project have been identified and mitigations developed in a risk management register.

The risk register that identifies how the Trust will manage the project risks is presented in Appendix 12.

Progress of the project in relation to the register will be reviewed on a regular basis with feedback used to update the risk register and control measures. In parallel with risk identification and classification, mitigation measures will be developed in consultation with all involved parties.

The following activities will be carried out:

- Key risks will be monitored regularly by the team and highlighted in the Progress report.
- The risk owner will control their own risks.

The risk register will be maintained and updated throughout the project by the Project Director. Risks identified by others will be incorporated when appropriate.

6.7.4 Optimism Bias Assessment

It is accepted that there is an inherent tendency to be overly optimistic when compiling project costs and to underestimate the cost of the risks associated with any project. In line with guidance contained in the Treasury Green Book, Sweett group have

undertaken an assessment of the capital cost risks and have adjusted the overall cost at outturn to reflect those risks by making an adjustment for “Optimism Bias”.

The detailed computation schedule has been attached as appendix 9 to the OBC and the main factors are summarised below :

- **Upper Bound Calculation**

To establish, based on the type of scheme, the upper bounds of any risk that might affect the costing of the scheme, if they were left unmitigated. These percentages have been taken from the approved template. The following upper bound calculation was prepared for the Trust by Cyril Sweett, based on initial assumptions for each element of the computation.

Table 6.2 Upper Bound Calculation

		Unmitigated Risk %
Build complexity	Under 2 years	0.50%
	Single phase	0.50%
	Single site	2.00%
Location	Existing site 15 – 50% refurbishment	10.00%
Scope of scheme	Group 1 & 2 equipment only	0.50%
	IT infrastructure implications	1.50%
	Including 1 or 2 NHS stakeholders	1.00%
Service changes	Stable environment	5.00%
Gateway	RPA score – Medium*	2.00%
Aggregate Upper Bound at OBC stage		23.00%

* subsequently assessed by the Trust as ‘Low’. See section 6.7.2

- **Scheme mitigation**

Based on the detailed factors shown in appendix 9 the Trust have already identified a level of actions to mitigate this risk and these indicate that 77.65% of the risks are being mitigated.

The level of residual (unmitigated) risk is therefore set at 5.14 % (23% * (1-0.7765)) and this has been applied to the overall construction cost included in the forms OB1 in appendix 8.

6.8 Workforce Planning

6.8.1 Introduction

This section sets out the key issues that relate to how the development will affect the Trust’s workforce and the Trust’s approach to workforce planning. It outlines the Trust’s

current model, assumptions and plans to achieve the workforce aspects of the development.

Key to successful workforce planning is the involvement of clinical professionals to help ensure the Trust's workforce has the necessary skills to provide outstanding care.

6.8.2 Current and Anticipated Workforce

The Trust is expecting an increase in the number of deliveries from 3,986 in 2012/13 to 4,707 in 2019/18, a rise of nearly 18% over the 5 year period and the NICU service are expected to have a similar rise in activity.

Accordingly the current workforce will need to expand to meet the challenges that come from such an increase and these changes will see the existing model of care adapted both to respond to the volume changes but also to changes in the physical environment brought about by the refurbishment.

The Trust have compiled a detailed Workforce Plan and Model of care in Annex C to accompany this OBC which identifies the changes that are thought to be required to the staffing mix and also identifies the benefits and efficiencies that are expected to come from the revision to the facilities.

Key to realising these benefits is the planned appointment of a senior Midwife to work between the Project Board and the current service management to identify how the redesigned pathways can be delivered, how existing practices can be improved, to ensure that further efficiencies are "designed in" to the final build solution and to ensure a smooth transition to the new model of care in 2016/17.

The major components of the workforce changes are set out below :-

- From the opening of the new facilities the Trust will move to a "midwife to birth" ratio of 1:30 as opposed to the current 1:28, as the redesigned floor plan will allow this change without compromising on safety.

- From 1 April 2016, the Trust will have a second co-located obstetric theatre which will be fully staffed from the outset. Staff who presently operate the existing service from main theatres will transfer and a number of new staff will be required.

- The NICU service is expected to operate at its present level of 91% cot occupancy and will do so from 1 April 2016, with the consequent increase in staff. The service will continue to operate to the existing guidelines for NICU staffing.

As the activity levels are expected to increase there are no expected redundancies and all existing staff will be mapped to new positions in the revised model of care.

Historically the services have had no significant issues with recruitment and this is not seen as a risk to the growth of the service over time.

- **Maternity workforce**

Table 6.3 Maternity Workforce 2013/4 – 2018/9

Department	**Workforce 2013/14 (per budget)**		Changes		**Workforce 2018/19**	
	wte	**m/b**	wte	m/b	**wte**	**m/b**
Ante natal	**9.98**	**6.05**	3.02		**13.00**	**6.05**
Specialist midwives	**10.65**	**3.36**			**10.65**	**3.36**
Birth Centre	**21.13**	**16.45**	1.00		**22.13**	**16.45**
Caerns ward	**9.61**	**5.95**	0.90	0.40	**10.51**	**6.35**
Cellier ward	**33.24**	**20.16**	8.26	0.77	**41.50**	**20.93**
Labour ward	**33.58**	**26.40**	15.42	8.72	**49.00**	**35.12**
Community	**50.00**	**48.76**	(3.50)	(3.50)	**53.50**	**45.26**
Murray & others	**21.81**	**14.80**	16.70	5.12	**38.51**	**19.92**
	190.00	**141.93**	48.80	11.51	**238.80**	**153.44**
Labour theatres	**12.67**	**2.60**	12.20	0.95	**24.87**	**3.55**
	202.67	**144.53**	61.00	12.46	**263.67**	**156.99**
Deliveries	**3,986**				**4,707**	
Midwife to birth ratio	**27.58**				**29.93**	
WTE per delivery	**19.66**				**17.82**	

The revised model of care that can be operated from the refurbished facilities allows the service to be more efficient in terms of the number of qualifying midwives required.

6.9 Benefits Realisation Plan

The section outlines the strategy, framework and plan for dealing with the management and delivery of benefits.

6.9.1 Benefit

The Trust aims to realise a number of benefits for both patients and the NHS through achieving its organisational objectives. To help achieve its organisational objectives the Trust understands that it needs to focus its efforts and resources on activities that support the realisation of these objectives.

6.9.2 The Benefits Realisation Plan

The Benefits Realisation Plan is a working document, which will evolve and develop during the whole life of the Project, playing a vital linking thread through the whole process. It is enclosed in Appendix 11. The Benefits Realisation Plan defines each benefit and documents how the benefits listed above will be achieved and measured by the end of the Project.

Targets are given for when the benefits will be realised, and a member of the Project Team identified as the lead for the monitoring progress with, and achievement of, individual benefits.

As far as possible, established measures have been selected to make benefits tracking as simple as possible.

The Benefits Realisation Plan will be reviewed throughout the project to ensure that it continues to reflect the organisational objectives, structures and processes of the Trust.

6.10 Post Project Evaluation

6.10.1 Scope and Aim of Evaluation

The project will need to be evaluated against the original investment objectives set out in the OBC and against any new objectives that have been identified in the meantime. The processes involved in delivering the project will also be evaluated. The Evaluation Plan has been set up to enable a number of benefits to be realised. It is anticipated that the evaluation will help to:

- Improve the design, organisation, implementation and strategic management of other projects, both within and outside the Trust.
- Ascertain whether the project is running smoothly so that corrective action can be taken if necessary.
- Promote organisational learning to improve current and future performance.
- Avoid repeating costly mistakes.
- Improve decision-making and resource allocation (e.g., by adopting more effective project management arrangements).
- Improve accountability by demonstrating to internal and external parties that resources have been used efficiently and effectively.

6.10.2 Benefits Realisation Evaluation

The Post Project Evaluation will incorporate a detailed review of all targeted specific outputs from the project, as detailed in the Benefits Realisation Plan (see Appendix 14).

6.10.3 Project Delivery Evaluation

The processes involved in delivering the project will be evaluated using the four stages described below.

i) Evaluation of the Project Procurement Stage

The objective of the evaluation at procurement stage is to assess how well and effectively the project was managed from the time of OBC approval to the approval stage of the Full Business Case (FBC).

It is planned that this evaluation will be undertaken within three months following FBC approval and will examine:

- The effectiveness of the project management of the scheme – viewed internally and externally
- The quality of the documentation prepared by the Trust for the procurement
- Communications and involvement during procurement
- The effectiveness of advisers used on the scheme

ii) Evaluation of the Project Implementation Stage

This stage will assess how well and effectively the project was managed from the time of FBC approval through to the commencement of operational commissioning.

The evaluation at the implementation stage will examine:

- The effectiveness of the Trust project management of the scheme – viewed internally and externally
- The effectiveness of the development partner's project management of the scheme – viewed internally and externally
- Communications and involvement during construction
- The effectiveness of the joint working arrangements established by the development partner's project teams and the Trust project teams
- The support provided during this stage from other stakeholder organisations – PCTs, Local Authorities, Strategic Health Authority, other local Trusts, Department of Health and any others as appropriate.

iii) Evaluation of the Project in Use (undertaken shortly after opening)

This stage of the evaluation will be undertaken between 6 and 12 months after operational commissioning has been completed so that many of the lessons to be learnt are still fresh in the minds of the project team and other key stakeholders. The evaluation will assess how well and effectively the project was managed during the Trust's operational commissioning phase and into the actual operation of the new hospital premises.

The evaluation at this "project in use" stage will examine:

- The effectiveness of the Trust project management of the scheme – viewed internally and externally;
- The effectiveness of the development partner's project management of the scheme – viewed internally and externally;
- Communications and involvement during commissioning and into operations;
- The effectiveness of the joint working arrangements established by the development partner's project team and the Trust project team;
- The support provided during this stage from other stakeholder organisations – PCTs, Local Authorities, Strategic Health Authority, other local Trusts, Department of Health and any others as appropriate;
- The overall success factors for the project in terms of cost, time and quality;
- The extent to which the design meets users' needs – from the point of view of patients/carers and staff

iv) Evaluation of the Project once the redeveloped facilities are well established

This evaluation is to be undertaken between two to three years following completion of commissioning. The objective of this stage will assess how well and effectively the project was managed during the actual operation of the new hospital premises.

The evaluation at this "well established" stage will examine:

- The effectiveness of the working arrangements established;
- The extent to which the design meets users' needs – from the point of view of patients/carers and staff.

6.10.4 Participants in the Evaluation

The participants in the evaluation and their roles are shown in the table below

Table 6.4: Participants in the Evaluation and Their Roles

Member	**Role**
Chief Executive (Senior Responsible Officer)	To provide input on: ▪ achieving strategic objectives ▪ achieving project objectives
Chief Operating Officer	To provide input on ▪ management processes ▪ achieving strategic objectives ▪ achieving project objectives
Project Director	To provide input on: ▪ management processes ▪ achieving strategic objectives ▪ achieving project objectives ▪ capital costs ▪ estates elements ▪ commissioning programme
Chief Finance Officer	To provide input on: ▪ financial elements ▪ achieving strategic objectives ▪ achieving project objectives ▪ flexibility in use/management of peaks and troughs in activity ▪ flexibility for sustained capacity changes
Medical Director/Director of Nursing	To provide input on: ▪ Appropriateness of/adherence to model of care ▪ Appropriateness/effectiveness of medical equipping arrangements/solutions ▪ Compliance with NHS design guidance and infection control arrangements ▪ Staffing efficiency, ergonomics, safety and security
Director of Organisational Development	To provide input on: ▪ Workforce planning ▪ Recruitment and retention ▪ Sickness absence
Director of Estates and Facilities	To provide input on: ▪ Design/environmental elements ▪ Health and Safety ▪ Energy Performance ▪ Estates Maintenance Arrangements ▪ Site development control planning
Patients/Patients' Representatives	Input on design/environmental elements

6.10.5 Management of the Evaluation Process and Resources to Deliver

The evaluation will be driven and undertaken by an Evaluation Steering Group. This will be multi-disciplinary and drawn from sources both within and outside the Trust, as required. The team will have the membership set out in Table 6.3 or representatives nominated by the Leads listed.

The stakeholders in the evaluation are as follows:

- Senior managers within the Trust
- Staff within the Trust
- TDA
- Contractor
- Islington CCG
- Haringey CCG
- NHS England
- Patients and Carers
- Patients Representatives
- Advisors involved in the project

The majority of the evaluation will be undertaken via the Project Team. The costs of the final post-project evaluation, once the redevelopment is fully-established, are not included in the costs set out in this OBC but will be met from non-recurrent funding within the Trust.

6.10.6 Dissemination of Findings

All evaluation reports will be completed within three to six months of data being collected. The results of each report will be made available to all participants in each stage of the evaluation.

6.11 Contingency plans

The consequences of project failure are outlined in section 7.

7 Downside case

In addition to the Trust identifying the preferred course of action, which is to Refurbish the existing facilities, the Trust have also had to recognise the issues it will face should the project not proceed. The Trust believe that there are two potential scenarios ;

- Refurbishment with reduced scope.
- No refurbishment at all.

7.1 Reduced scope

Any reduction in scope would compromise the gains in safety and service that were at the centre of the OBC proposals. Although not tested in detail, it might be viewed as possible to de couple some elements of the scheme and the consequences of this have been reviewed below :-

- **Obstetric Theatre**

Any reduced scheme that did not include constructing the second, co-located, obstetric theatre will consign the service to continued use of the main theatres, and to continuing with the risks of using a theatre that is some distance away from the Labour ward. Whereas the Trust have been able to successfully mitigate these risks for some period of time it cannot guarantee that they will be able to do so in the future.

Continuing with this practice will also mean that staffing and operational inefficiencies will effectively continue to be “built in” to the system making any further cost savings more difficult.

- **ITU / HDU space improvements**

Without constructing the new core block there will be no net gain in the space available for either the Maternity or the NICU services and therefore no way in which to provide the NICU services in a space that complies with modern health standards.

Essentially, if the NICU space issues could have been resolved via some form of internal re configuration without the need to address the overall space provision, the Trust would probably have made this move by now.

- **Maternity capacity**

The Trust recognise that without an increase in capacity they will have to refer some mothers to other maternity facilities in to the long term, and that without the improvements set out in the OBC they may struggle to cope with any long term increase in demand.

7.2 No refurbishment

Set out below is a picture of how the services might respond in the light of no strategic capital investment, or to having an investment that is significantly delayed.

Not conducting the refurbishment is not the same as the “Do Minimum” option that has been used as a comparison to the “Refurbishment option” as the Do Minimum does not show the potential “real life” issue that might arise.

- **The Downside scenario**

Under the Downside scenario the Trust will carry out its £10m backlog programme over the next 5 years. Whereas this will bring about some improvements to the condition of

the buildings the service will have to endure a protracted period of being interrupted by internal construction works and repeated decanting.

The service will probably :-

- Continue to operate at the upper bounds of its capacity and, if population growth occurs, the service will refer more and more women to other local providers.
- Continue using the main theatres for planned C sections and as an emergency theatre in times of need.
- Continue to operate the NICU services in cramped conditions with the constant risk of infection.
- Staff will continue to operate from cramped, impersonal, conditions.
- Continued staffing to the 1: 28 midwife to birth ratio.

- **The downside activity**

Given the description of the Downside scenario the Maternity Steering Board considered how the service activity might develop over the short and medium term with particular emphasis on the way women would wish to be treated in an era of increasing mobility, information, and choice. The table below simply sets out the number of deliveries that might occur at the Whittington hospital if activity reduces by an annual rate ranging between 1 and 3 percent per annum.

Table 7.1: "Downside case" number of deliveries

FY	**12/13**	**13/14**	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**
Reduce by 1%	3,986	4,018	3,978	3,938	3,899	3,860	3,821
Reduce by 2%	3,986	4,018	3,938	3,859	3,782	3,706	3,632
Reduce by 3%	3,986	4,018	3,897	3,781	3,667	3,557	3,450

- **Financial impact of Downside activity**

The Trust have modelled the potential impact of a 2% compound reduction in the number of deliveries which will have the following financial impact.

Table 7.2 - Downside case Income & Expenditure comparison (with no inflation)

	Base	**Gradual reduction inactivity**						
	13/14	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**
Deliveries	4,018	3,938	3,859	3,782	3,706	3,632	3,559	3,488
Decrease		80	79	77	76	74	73	71
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
Decreased income	(126)	(642)	(1,150)	(1,647)	(2,135)	(2,613)	(3,081)	(3,540)
Decreased cost	94	495	793	1,139	1,382	1,672	1,961	1,294
EBITDA	(32)	(147)	(357)	(508)	(753)	(941)	(1,120)	(2,246)

Assuming that no redundancy will be required with a linear slow down in activity, the trust is unlikely to be able to shed costs as quick as it reduces its income and will always have the fixed cost of the property to manage. A 2% continual reduction will mean a significant level of CIP will need to be found.

By applying the Tariff deflation and cost inflation to the model the picture would be considerably worse.

- **Reputational issues**

Although the basic downside scenario shows a steady fall in the number of deliveries it is quite possible that the decline in deliveries would accelerate over time unless the service was able to manage its reputation.

- **Other issues**

Any reduction in the number of deliveries would probably have a long term impact on the use of other services within the Trust such as paediatrics although no attempt has been made to quantify this.

The consequent reduction in the number of cot days in the NICU could eventually put its status as a level 2 NICU at risk with the further consequent loss of income to the Trust.

The status of the Trust as a training provider could again be at risk.