APPOINTMENT BUSINESS CASE

FINAL – PUBLIC VERSION

PLEASE NOTE

SOME SECTIONS HAVE BEEN REDACTED FOR REASONS OF COMMERCIAL CONFIDENTIALITY

REDACTED SECTIONS ARE MARKED AS

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EXECUTIVE SUMMARY

1. INTRODUCTION

Following a PFI competition, this Appointment Business Case sets out North Bristol NHS Trust's intention to appoint a bidder-Carillion to build and maintain a new 800 bed hospital on the Southmead site. The hospital is 110,000sqm and has an out-turn capital value of £435m.

The aim is to open these facilities in 2013.

This hospital is the main element in the rationalisation of acute services at Southmead and Frenchay hospitals on to a single acute site at Southmead. This development is a component part of the Bristol Health Service Plan (BHSP) that aims to modernise health services and hospital facilities in Bristol, North Somerset and South Gloucestershire. It follows on from a major public consultation and an Outline Business Case (OBC), which was prepared by North Bristol Trust, South Gloucestershire PCT and Bristol North PCT and was approved by the Department of Health in February 2007.

2. RATIONALE

The rationale for the development was laid out in the OBC and is summarised as follows:

Poor configuration of acute services around Bristol: The central problem is a legacy of acute and specialist services scattered over 4 sites in the Greater Bristol area: Frenchay Hospital, Southmead Hospital, The Bristol Royal Infirmary and Weston General Hospital. The distribution of these services is based around historical development and they lack the coherence and concentration necessary to provide effective and efficient healthcare. There is a clear belief amongst local services that four separate A&E and acute receiving centres are not sustainable in the long term and a clear intention to focus down to three centres at Southmead, the Bristol Royal Infirmary and Weston.

Poor configuration of services on site: The campuses at Frenchay and Southmead house a collection of acute and non-acute services with the acute services thinned out across the sites. The essential ingredients for an acute core hospital, A&E, Coronary Care, acute assessment, hot imaging, theatres, ITU and acute wards are spread all over the sites and provide a very poor and inefficient environment totally unsuited to delivering care to modern standards within acceptable costs. In addition the building environments are not suited to enabling fast processes and efficient delivery of care with insufficient investment in diagnostic facilities and technology.

Poor access for patients: The acute hospital campuses contain a number of non acute services that could be provided without difficulty or cost pressure at local community sites. The presence of these services on the central sites is pulling large numbers of patients from outlying areas in to congested city centre areas when there is no strong clinical or economic sense for this centralised pattern of provision.

Poor environment: The fabric of the buildings at Frenchay and Southmead is very poor with a range of pre-war buildings mixed in with a combination of semi-permanent and some reasonable 1980s/1990s buildings. Consequences of this poor estate include: sub-standard patient environments that cannot comply with NHS standards, continual outbreaks of Hospital Acquired Infections, and wasteful energy consumption.

Difficulties in responding to Regional and National Requirements: A combination of the above factors has meant that the local NHS organisations are unprepared to respond to overall NHS requirements including:

- High quality patient care as defined in National Service Frameworks.
- New targets and aspirations as described by the Darzi reviews.
- Ambitions contained within The Strategic Framework for Improving Health in the South West 2008/09 to 2010/11.
- Options for patients and choice and control over the services they receive with the ability to select from a range of high quality providers.
- New workforce and education requirements, including the European Working Time Directive and the improvement in training of doctors and other staff.

Underpinning all these is the creation of Foundation Trusts with: long term sustainable systems and processes; and the ability to meet objectives for patient care and manage resources effectively.

The local health services have identified the real problem of establishing Foundation Trusts fit for purpose with a legacy of outdated, inefficient and poorly structured services. The local NHS infrastructure has had a 'patched-up quality' that has prevented the systematic approach that is now required for the future. This has led to periodic financial and service crises and significant room for improvement in areas such as length of stay for inpatients and waiting time for treatments.

3. BACKGROUND AND THE BRISTOL HEALTH SERVICES PLAN

To address these issues, the local health services established the Bristol Health Services Plan in 2003. The creation of this plan has allowed the local Trusts to develop services within an agreed financial and capacity framework and avoid duplication or inconsistency in capital planning across the locality.

Through the Bristol Health Services Plan, the local health services developed a series of integrated proposals including:

- New, community healthcare facilities in Yate, Thornbury and Kingswood, South Bristol and Central and East Bristol.
- Development of the Bristol Royal Infirmary (BRI) site (including new facilities for children, to enable inpatient children's services from across Bristol to be integrated at the Bristol Children's Hospital).
- The centralisation of surgical specialties across the city in order to efficiently and effectively use expert resources.
- New cardiothoracic facilities at the BRI and in North Bristol/South Gloucestershire.
- A major new acute hospital for North Bristol and South Gloucestershire on the Southmead site with a community hospital on both Southmead and Frenchay sites.

The capacity and financial implications of these proposals and the balance achieved between them were then captured in an affordability and capacity framework document that was signed off by the Avon, Gloucestershire and Wiltshire Strategic Health Authority in October 2005.

4. FROM THE OBC TO THE ABC

4.1 Reviews

Having agreed the overall framework, the OBC for the Southmead development was prepared by NBT, North Bristol and South Gloucestershire PCTs and signed off by the Strategic Health Authority in February 2006.

Following this sign-off, a number of changes to NHS policy and structure were made including:

- A national re-appraisal of PFI and affordability.
- The creation of new larger Strategic Health Authorities including the SWSHA
- A restructure of PCTs including the merger of South Bristol and North Bristol into a single Bristol PCT.
- The formalisation of the Independent Treatment Centre proposals into an agreed scheme with set capacity at Emerson's Green in South Gloucestershire.

As a result of this there was a requirement for the Trust to put the scheme through a number of vigorous reviews to ensure that it complied with new and more stretching targets and that it could be supported by the new organisations. The scheme was able to pass through these reviews due to its basis of rationalisation and modernisation of services, leading to favourable financial ratios.

These reviews are shown in the following table:

Table 4.1i Summary of reviews to date

Stage	By whom	Summary
Assessment of PFI Affordability April 2006	DH	The scheme was reviewed by the DH to check that it was affordable in the context of new nationally set ratios. The scheme was agreed to be affordable in this context. In particular, the scheme was carrying a normalised Unitary Payment (UP) to Turnover ratio of 12.2%, significantly better than the usual PFI ratios of between 15% and 20%. On this basis the scheme was given the all-clear to proceed.
Reappraisal of BHSP by SW SHA Sept 2006	SHA	The newly formed SW SHA undertook a comprehensive review of the BHSP to check affordability before authorising the capacity and affordability basis for the procurement. It was agreed the development should proceed as proposed.
Review and final sign-off of OBC March 2007	DH	The OBC was approved and given terms to work within: • that the scheme remains within the affordability ratios agreed with HM Treasury and notified to the Trust in our letter of 2nd March 2007 (normalised UP under 12.2% of turnover); • that the scheme remains within the normalised unitary charge affordability ceiling of £44.76 million at 2006/7 price base; • that PCTs' and SHA support remains as indicated in their letters, December 2006; • that regular updates on progress are sent to the PFU and CIB; and more specifically on bid cost issues; • copies of project board minutes are forwarded to CIB; • the procurement process is conducted in line with PFU guidance on competitive dialogue; • the funding competition is run in line with PFU guidance.
Affordability review of scheme by Bristol PCT Sept 2007	Bristol PCT	The scheme was referenced back to the updated Local Development Plans to check that affordability and capacity assumptions were still valid. This review confirmed that the scheme was still affordable in the context of the overall BHSP

Stage	By whom	Summary
Review and sign-off of procurement documentation May 2007	DH	The procurement documentation, scope of procurement and commercial drafting were agreed by the DH
Competition September 2007-July 2008	NBT	The procurement was conducted in line with the documents agreed with the DH. The OJEU was submitted in May 2007, a short-list of 3 Bidders was drawn up in August 2007 and this was reduced to 2 bidders in December 2007. Draft bids were received in July 2008.
KPMG review April 2008	Bristol PCT	The scheme was reviewed for a final time by KPMG with the conclusion that 'Overall, the current capacity and financial projections appear reasonable with a number of risks taken into account'
PCT sign-off	Bristol, South Glos and North Somerset PCTs	A summary ABC was approved by the PCTs in July 2008.
SHA review and sign-off July2008-January 2009	South West SHA	The SHA conducted an extensive review of the proposals and concluded that the scheme: • Was still of strategic importance, • Had the correct capacity • Could be afforded in the current financial climate

4.2 Policy

A further development has been the review of the NHS by Lord Darzi that included five key themes:

- Equity
- Personalised Care
- Concentration on outcomes
- Safer services
- Local accountability

These themes were then incorporated into strategic frameworks developed by each SHA. The South West strategic framework links this review to a series of specific ambitions that this ABC has reconciled to the ambitions laid out in the OBC including waiting times, length of stay and access rates. These are incorporated in the benefits realisation plan.

In addition, the Trust and the other participants in the BHSP, led by Bristol PCT, are conducting a further review of the strategic configuration of services across the city to take full advantage of the opportunity presented by the new hospital at Southmead. This work will generate a range of scenarios that could be applied to the new hospital and other facilities across the city.

4.3 Changes from the OBC

Further to the reviews and analyses identified above, the scope of the scheme has been re-assessed and tweaked to address any new issues or changes in circumstance. In general, the impact of these scope changes have been fairly minimal and have not resulted in wholesale updates to the Public Sector Comparator. The overall scope has remained the same in terms of:

- The range and type of service to be provided.
- Assumptions concerning other providers in the locality including the ISTC.

The reason that these changes have been minor is that:

- The OBC was able to accommodate the implications of the ISTC at Emerson's Green before it was finally approved last year.
- The capacity of the community schemes in Bristol was identified as part of the BHSP framework in 2005.

The option appraisal in the OBC originally included costs associated with the development of a community hospital on the Frenchay site, either as new build or refurbishment. The OBC confirmed that the Trust would progress with the procurement of an acute and community hospital on the Southmead site, but that a separate OBC would be developed to take the Frenchay community scheme forward. This ABC does not therefore include any costs or analyses associated with the Frenchay community hospital business case. This project is being project managed by NHS South Gloucestershire who will submit a business case to the Strategic Health Authority in due course.

The only other changes from OBC to ABC have related to a tightening of performance parameters to reduce capacity with a small offset from an increase in growth assumptions by the Office of National Statistics. A summary of these changes is shown in the following tables:

Table 4.i Change in bed capacity assumptions OBC to ABC

Type of bed	OBC	ABC	Change
Acute Beds PFI	802	768	-34
Acute Beds in Retained Accommodation	145	97	-48
Sub-total	**947**	**865**	**-82**
Southmead Community Hospital PFI	28	32	4

This table shows an overall reduction of 30 beds in the PFI development as a consequence of the revised assumptions, together with a reduction of 48 beds in retained accommodation. In addition there has been a general reduction in capacity in other areas of the hospital to reflect an increase in throughput assumptions as shown below:

Table 4.ii Change in treatment room capacity assumptions OBC to ABC

Type of bed	Current	OBC	ABC
Theatres	32	26	24
Endoscopy Rooms	4	4	4
Recovery & Daycase Trolleys	117	101	83
MR Rooms	3	7	4
CT Rooms	3	5	4
Ultrasound Rooms	12	6	6
Plain Film Rooms	19	12	10
Other Radiology Rooms	13	13	14
Outpatients Clusters	30	16	12
			(Plus 2 OP clusters for R&D/trials)

These changes were accommodated in the Public Sector Comparator and brief that was given to the Bidders.

5. RE-APPRAISAL OF OBJECTIVES AND STRATEGY

5.1 Objectives and Benefits of Investment at OBC

Alongside the reviews and minor changes to scope, the objectives and strategy on which the development is based were re-appraised.

The original aim of this development was to introduce a far more systematic approach to care in North Bristol and South Gloucestershire, as part of the overall Bristol Health Services Plan. The proposals will give North Bristol and South Gloucestershire a health system supported by a purpose-built and flexible environment that will allow it to provide excellent patient care within a long-term sustainable framework.

Within this overall aim the following objectives were defined in the OBC:

- Concentrate acute and specialist services in North Bristol and South Gloucestershire on a single site and improve the safety and sustainability of care.
- Improve the efficiency and effectiveness of services by harmonising primary care, social care and local hospital services to avoid gaps in provision, delays and duplication of effort.
- Improve accessibility of care to patients and reduce the amount of unnecessary journeys.
- Improve the very poor patient environment and working conditions in the old hospitals and provide buildings fit for purpose.
- Contribute to neighbourhood renewal and regeneration.

The consequences of delivering the above objectives were to be:

- All patients will be assessed and treated within 18 weeks.
- All quality targets within the National Service Frameworks will be met including reduction in mortality rates in key areas such as cancer and heart disease.
- There will be significant improvement in efficiency with inpatient lengths of stay in line with current national upper decile levels.
- All estate will be in condition B and above and the Trusts will comply with the national energy target of maximum 55gj/m^3.

- North Bristol NHS Trust will be fit for purpose as a Foundation Trust and the local health economy will have a financially sustainable structure for the long term.

5.2 Updated Ambitions

The main potential impact on these objectives is the Darzi review and the resultant SHA framework.

The ABC objectives have been reviewed and the consequences been reappraised in line with the ambitions in this SHA strategic framework. An analysis of the ABC targets matched against the SHA framework is shown in the following table:

Table 5.2i ABC response to SHA ambitions

Area	SHA Ambition	ABC response
Long term conditions	Reduce emergency bed days for people with long-term conditions by 30%	Emergency bed length of stay target tightened to 35% reduction
Planned care	75% of the 160 procedures identified by the British Association of Day Surgery will be carried out as a day case	Daycase target of 75%
	At least 50% of outpatient appointments to take place in a local setting	30-59% transfers by type
	90% of admitted patients and 95% of non-admitted patients to be treated within eight weeks by 31 March 2011	No-wait strategy
	90% of diagnostic tests are carried out and the results available to the referrer within two weeks by 31 March 2011	No-wait strategy
Acute care	Accident and emergency attendances at acute hospitals will reduce by 10% per annum over five years	65% transfer of ED attendances
	95% of acute medical patients will have an assessment by an acute physician consultant within four hours of admission	100% acute medical patients assessed within 4hours in integrated acute front-end model
	90% of stroke patients will spend 90% of their time in hospital in an acute specialist multi-disciplinary stroke unit	100% acute stroke patients will be in dedicated service whilst in the Southmead Hospital
	The length of stay for acute medical care will be in the best quartile for England by 31 March 2011	Acute medical LoS will have top quartile performance
Resources	Improve the productivity of clinical activity by at least £700 million per annum by 31 March 2014	Overall productivity gains will be c 25%
Improving clinical quality and user experience	30% reduction in clostridium difficile in hospitals from 2007/08 to 2008/09 Eliminate mixed-sex accommodation by 31 March 2009	Single room strategy will target 50% reduction in CD and zero mixed sex accommodation

Area	SHA Ambition	ABC response
Investing in Facilities	Reduce primary energy consumption by 15% or 0.15 million tonnes carbon from 31 March 2000 levels Achieve energy levels of 35-55 gigajoules per 100m3 for new developments	Energy consumption will be reduced by 50% to 40Gj per $100m^3$

This analysis demonstrates how the ambitions for the SHA are reflected in the Southmead scheme, and how the execution of these proposals would lead to delivery of the SHA ambitions. The targets in the ABC tend towards the ambitious end of the framework and this emphasises the need for a coherent clinical strategy and change programme.

5.3 Clinical Strategy

The proposed changes to the hospital structures and the intended benefits outlined above will therefore be accompanied by a major restructure of health systems and modernisation of health processes. This change is governed by a clinical strategy that has been developed as part of the BHSP and includes the following main principles:

- **Enhancement of Primary Care:** The role of primary care as the principle orchestrator of patients' care will be enhanced and developed.

- **Joined Up Hospital and Community Services:** Better outcomes will be achieved by joining up hospital, community and social care services more effectively facilitated by use of technology including the National Care Record Service.

- **Concentration of Acute Services:** More rapid and effective decision-making, avoidance of duplication and increase in quality, flexibility and speed of throughput will be achieved by a concentration of acute and specialist resources and expertise in a smaller number of places.

- **Patient Empowerment:** Patients and carers will be supported and encouraged to make informed decisions regarding their health and condition and will be full partners in the development and delivery of care plans.

- **Rapid Access and Rapid Throughput:** Patients will get treatment as soon as they are clinically ready and will not be waiting in queues for a diagnosis or treatment. Immediate expert assessment will be provided to patients with acute problems when required, leading to better health outcomes, more efficiency and prevention of crises.

- **Harmonisation of Approach:** Equity of access for patients will be achieved by a more systematic approach across the community including the adoption of joint protocols by community providers and Social Services.

- **Case Management:** Patients in all parts of the health system will receive co-ordination of their care by staff who will be responsible for them. To enable this co-ordination, there will be an integration of assessment and planning processes for patients.

- **Flexibility:** Services will be designed that have the ability to flex and change in response to changes in technology, service approach and overall clinical process. They will be responsive to local needs and national drivers. This will dictate a more generic approach to the provision of beds, theatres and diagnostics.

- **Governance:** Shared governance arrangements will support the models of care with an emphasis on enabling patients to move smoothly between services regardless of organisation.

These themes in the strategy mirror a number of the key initiatives in the new SHA framework. In particular the ambitions in the framework for long term conditions, planned care and acute care are addressed by the above strategy with its emphasis on case management, concentration of acute services and joining up of the various strands within community and hospital care programmes.

5.4 Change Programme

This new clinical system requires a radical restructure of existing teams and services and this change will be driven by a joint programme of clinical change.

This work has already started and the aim of the initial phase of redesign work is to agree and deliver a clinical model of care for each prioritised work stream, supported by an implementation plan with key performance indicators. The current work streams include:

- Simple Elective Surgery
- Orthopaedics
- Stroke Care (including Transient Ischemic Attacks)
- Rehabilitation

These work streams cross boundary and specialty care delivery, and have targets such as introducing a no-wait strategy for planned care.

5.5 Workforce

This pathway work also covers workforce implications, closely linked to performance management, appraisals, staff skills and competence and commissioning of education and training packages.

The Trust has established a Workforce Development Group to identify and take forward the significant workforce agenda associated with this ABC.

Key issues for this group have been:

- Redesign of the workforce to facilitate the introduction of new care pathways.
- Restructuring the workforce to ensure that it provides the right skill mix for the new hospital, e.g. the 32 bedded inpatient clusters.

- The need to be clear how the Trust will provide enhanced services at a number of community locations, and the implications of this shift for the workforce.

- The need to be clear about the implications for staff, as some specialist services are concentrated within Bristol.

- The development of a transition plan setting how the Trust will get from where it is now, to where it needs to be in 2013/14.

- Management of the facilities workforce, and in particular managing the implications of the transfer of hard FM by the PFI Company.

It is anticipated that the overall ratio of staff will accommodate a higher percentage of unregistered staff, who will be required to deliver care supported by a range of generic skills and competencies. The registered workforce will need to be more highly skilled, responsible for the management, co-ordination and delivery of specialist patient care and education, undertaking expanded roles and capable of autonomous working.
In the OBC the Trust made an initial assessment of the structure of the workforce in 2013/14. This assessment took into account the workforce changes, which would take place as a result of:

- Growth, service development and cost of quality pressures.
- Financial Recovery Savings.
- Transfers to the independent sector.
- Transfers to and from other acute providers.
- Transfers to the community and primary care.
- Staff changes consequent upon the creation of one acute hospital and the associated synergy savings.

This assessment has been updated for the ABC to include changes such as:

- The establishment of an IVF service on the Southmead Hospital site, bringing together the NBT and the University of Bristol service. This brought additional 36 WTE staff to the staff.
- Success by the Trust in being identified as the preferred provider for CAMHS and Community Paediatrics across Bristol and South Gloucestershire. This will bring an additional 260 WTE staff into the Trust.
- An update of projections to reflect latest assumptions on synergy savings.

The resulting planned workforce changes are shown in the following table:

Table 5.5.i Summary of workforce changes

Staff Group	WTE's								
	Budgeted WTE at 31/03/2009	Internal Develop. to 14/15	Growth to 14/15	Transfers to 14/15	CRES to 14/15	sub t - wte Prior to New Hospital	Reduced hard FM transfer	New Hospital Savings in 14/15	Budgeted WTE at 31/03/2015
Medical Staff	852	21	28	-18	-97	786		0	786
Nursing	3,176	74	102	-38	-609	2,705		-301	2,404
AHPs & Other Clinical Staff	1,277	18	41	35	-144	1,227		-43	1,183
Admin & Clerical & Management	1,572	21	51	4	-190	1,456		-32	1,425
Healthcare Support Staff	755	11	24	16	-91	715	-76	-93	546
Total	**7,631**	**145**	**247**	**-2**	**-1,132**	**6,889**	**-76**	**-469**	**6,344**

The 7631 WTEs budgeted currently is made up of 3739 WTEs on the Southmead site, 3558 WTEs on the Frenchay site and 334 WTEs on other sites.

The net reduction in staff numbers prior to the opening of new hospital of 742 WTEs is due to ongoing activity changes and efficiency savings on all sites. The reduction of 469 WTEs on the move to the new hospital is achieved to a great extent by the synergies and economies of scale that can be achieved by moving from two aging acute hospitals to a single purpose-designed new hospital. The new acute hospital will have approximately 5800 WTEs.

5.6 Specialist Services

The development will house a number of specialist services with catchment populations extending to the whole of the South West and beyond.

These services include:

- Burns and plastics
- Renal medicine
- Neurosciences
- Specialist orthopaedics

The strategy is to develop these services and to house them in the new hospital in such a way as to keep the coherence of their parts as well as to allow flexibility to change.

At the present time, a number of specialist services are split between acute provider trusts and also between hospital sites in Bristol. The strategy within the Bristol Health Services Plan (BHSP) is for the integration and concentration of specialist services across Bristol. This will ensure the viability of these services and the provision of the best possible care, recognizing the need to make the most effective use of specialist expertise, skills and equipment. The BHSP identifies a number of service reconfigurations to achieve this objective. Those which will impact on North Bristol Trust are:

- Concentration of general paediatric services at the Bristol Children's Hospital at United Bristol Healthcare Trust (UBHT), completed in April 2007.
- Concentration of specialist paediatric services at the Bristol Children's Hospital with effect from 2013/14. An outline business case has been approved by the SHA and the FBC is currently being prepared by UBHT.
- Concentration of inpatient breast services at UBHT – scheme has been stopped pending a wider review of breast care services across BNSSG.
- Concentration of ENT and oral and maxillofacial services within NBT with effect during early 2008 – currently pending final outcome of review of Head & Neck services by the Avon, Wiltshire and Somerset Cancer Network.

6. ACTIVITY AND CAPACITY

6.1 Growth

The objectives and strategies identified above have been matched up to assumptions around activity and capacity. Projections of population growth have been reviewed in line with predictions from the Office of National Statistics. The projections have increased from the OBC levels as shown in the following table:

Table 6.1.i Projected annual growth in weighted population

	OBC Annualised weighted pop'n growth projections %	ABC annualised weighted pop'n growth projections %	
	2004 to 2013	2007 to 2013	2013 to 2018
Bristol	0.3	0.6	0.6
South Glos	1.3	1.5	1.3
North Somerset	1.3	1.6	1.5
Total BNSSG	0.9	1.2	1.1
Other PCTs	0.9	1.2	1.1
Total	0.9	1.2	1.1

A further consideration for the scheme is the major development of new homes in the Greater Bristol area including 30,000 new homes planned for South Gloucestershire. The base year for activity projections is activity planned to be undertaken in 2008/9. Growth-projections from 2009/10 onwards build on the work done at OBC stage and take account of:

- The population projections above and the plans for large numbers of new homes.
- Historical growth trends assessed by BNSSG PCTs as averaging approximately 2% per annum (before reflecting the increased level of demand management initiatives more recently).
- Local clinical knowledge regarding differentials between different specialties in the likely demand growth going forward.
- Potential for demand to be managed in other settings (other than the transfer of care to community hospitals which is assessed separately below).
- Elimination of non-recurring activity as waiting times stabilise at lower levels.

The resulting annual percentage demand changes are summarised below:

Table 6.1.ii Projected annual percentage demand changes

Annual percentage growth							
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 to 2018/19	2018/19 to 2023/24
Electives inpatients and daycases	-1.66%	1.52%	1.56%	1.59%	1.63%	1.8%	1.9%
Non elective cases	1.03%	1.04%	1.37%	1.38%	1.39%	1.6%	1.7%
New outpatient attendances	-5.6%	-4.0%	1.5%	1.5%	1.5%	1.5%	1.2%

The base activity in 2008/9 and the resulting activity in 2013/14 after projected growth, and subsequently in 2018/19 and 2023/24, are summarised in the tables below.

Table 6.1.iii Projected growth in outpatient demand 2008/09 to 2023/24

	2008/9 planned activity	Adjusted annual historical growth to 2013/14 net of alternatives to acute care	2013/14 projected activity before transfers	2018/19 projected activity before transfers	2023-24 projected activity before transfers
New OP appts	89735	1.1%	94693	102011	109895
Follow Up OP appts	217481	-1.1%	205967	221885	239033
Total OP appts	307216	-0.4%	300660	323896	348928

Table 6.1.iv Projected growth in inpatient and day case demand 2008/09 to 2023/24

	2008/9 planned activity	Adjusted annual historical growth to 2013/14 net of alternatives to acute care	2013/14 projected activity before transfers	2018/19 projected activity before transfers	2023-24 projected activity before transfers
Elective IP/DC	53926	0.9%	56452	61508	67552
Non Elective IP	44719	1.3%	47571	51080	55023
Total IP activity	98645	1.1%	104023	112588	122575

6.2 Transfers

Having established the total demand, assessments have then been made of planned service transfers to and from other organisations within the BHSP. These remain broadly in line with the BHSP Steering Group's report to the SHA on the Bristol Health Services Plan of October 2005 and are shown below:

The main differences in acute flows from the BHSP position captured in the OBC are due to:

- Commissioning decisions on services that have happened subsequent to the agreement with the ENT and breast transfers being scaled down.
- Data predictions being supplanted by actual commissioning decisions-the actual ISTC capacity that has been agreed is less than the volume estimated in the OBC although with a heavier case-mix.
- Estimates needing to be brought up to date in particular the acute flows in the OBC being calculated prior to the transfer of A&E services to Frenchay in 2005 and reduced levels of overall non-elective activity available to transfer.

Table 6.2.i Acute transfers

Acute Transfers	OBC	ABC	
	Spells	Spells	OP Atts
Breast surgery transfer to UHBT	-191	0	
ENT transfer from UHBT	1618	1197	
Transfers to ISTC	-7956	-4701	-23390
Acute Flows transfer out	-4311	-2542	
Specialist Paediatrics to UHBT	-3747	-3550	-17474
Additional Transfers to Weston	-820		
Total	**-15407**	**-9596**	**-40864**

In addition to these acute transfers there is a major switch from acute to community settings as shown below:

Table 6.2ii Acute to community transfers

Transfers to Community Settings		
	Percentage Transfer at OBC Stage	Percentage Transfer at ABC Stage
Outpatient Attendances	29%	32%
Therapy Contacts	59%	65%
Diagnostic scans	32%	35%
ED Attendances	56%	65%

6.3 Demand Summary

The table below summarises the projected inpatient and outpatient demand in 2013/14:

Table 6.3.i Summary of activity to 2013/14

	Elective Inpatients & Daycases	Non-Elective Inpatients	Total Outpatients Attendances
2008/9 planned activity	53,926	44,719	307,216
Growth to 2013/14 net of alternatives	2,526	2,852	-6,556
SUB-TOTAL	**56,452**	**47,571**	**300,660**
Acute Flow transfers		-2,542	
ENT transfers	797	400	
Specialist transfers	-2,121	-1,429	-17,474
Independent Sector transfers	-4,701		-23,390
2013/14 projected activity	**50,427**	**44,000**	**259,796**
2013/14 activity in Community settings			85,381
2013/14 activity in Acute settings	50,427	44,000	174,415

6.4 Performance

The assessment of bed numbers required take account of reductions in average length of stay and increases in daycase rates, which are enabled by both the planned clinical model for the future, and also by the design and adjacencies of the new hospital.

The 2013/14 planned performance levels in comparison with current 2007/8 performance levels are shown below.

The non-elective reduction is 34% and the elective 28%, and these are pushing ahead of SHA targets but with the benefit of a purpose-built environment.

Table 6.4.i Length of stay excluding obstetrics and psychiatry

Excluding Obstetrics & Psychiatry outside the PFI	Current 2007/8	ABC in 13/14	% Change
Non Elective Spell Length of Stay	8.3	5.5	-34%
Elective Spell Length of Stay	4.6	3.3	-28%
Daycase Rate	70%	75%	7%
Bed Occupancy	90%	84%	-7%

This analysis excludes maternity and other specialties excluded from the PFI. An analysis including these specialties is shown in the following table:

Table 6.4.ii Length of stay including obstetrics and psychiatry

All specialties	Current 2007/8	ABC in 13/14	% Change
Non Elective Spell Length of Stay	6.3	4.8	-24%
Elective Spell Length of Stay	4.4	3.6	-18%
Daycase Rate	68%	75%	10%
Bed Occupancy	90%	84%	-7%

6.5 Beds

The requirement derived from this analysis of demand and performance is 865 acute beds on the Southmead site, of which 768 are in the new hospital. This compares with current beds of 1114. However, in addition to this analysis, the Trust has agreed to target further performance improvements in line with overall falls in bed utilisation averages across the NHS. This equates to a further 50 beds. These additional beds have not been removed from the scheme however, but left as a buffer in recognition of the need to accommodate planning error and potential changes in service provision across Bristol and the local area. The resulting bed requirement and provision is shown in the following table:

Table 6.5.i 2013/14 Bed Requirements and Provision

	Beds
Required acute & community beds in 2008/09	**1114**
Growth(net of alternatives to acute admission)	56
Specialist catchment area/transfers	10
Increase in casemix complexity	16
Reduction in length of stay	-151
Increase in daycase rates	-47
Decrease in occupancy rates	53
Further improvement in productivity	-50
Required beds in 2013/14 before transfers	**1001**
Transfer of step-down/rehabilitation to comm hosps	-96
Specialist paediatrics and ENT transfers	-22
Transfer to ISTC	-13
Transfers from changed acute flows	-55
Required acute beds in 2013/14 after transfers	**815**
Acute beds in the PFI scheme	768
Acute beds in retained estate	97
Planned acute beds	**865**
Required community beds	
Transfer of step-down/rehabilitation from acute	96
Step-up/admissions avoidance beds	10
Transfer of step-down beds from Bristol General	10
Total required community beds	**116**
Southmead Community Hospital (in PFI scheme)	32
Frenchay Community Hospital (outside PFI scheme)	84
Planned community beds	**116**

6.6 Sensitivity Analysis and Contingency Planning

Table 6.6.i below shows how the requirement for acute beds in the new hospital would compare to the 768 physical beds in the scheme if some of the key assumptions were changed, and what the resulting surplus or shortfall of beds would then be, based on Trust modelling.

Table 6.6.i Bed sensitivity analysis

	Beds required based on ABC assumptions
Total Acute beds in the new hospital	768
Surplus beds at Upper Quartile length of stay	22
Surplus beds at Upper Decile length of stay	Est 106
Shortfall of beds at current length of stay	-276
Surplus beds if maximum transfer to Weston	18
Surplus beds if growth 0.5%pa less than planned	21
Shortfall of beds if growth 0.5%pa greater than planned	-22

If the Trust achieved current upper quartile performance across every specialty, then it would have 22 surplus beds in 2013/14. However, achieving upper quartile in every specialty is likely to push the Trust into upper decile performance as a whole entity, measured against current benchmarks. Achieving upper decile in every specialty would result in 106 surplus beds, but given the same point this is not considered a sensible basis for planning.

If length of stay was not improved above the actual level achieved in 2007/8, this would leave the Trust short of 276 beds. This emphasises the importance of performance improvement in the project.

Other scenarios shown in the table are growth being 0.5% per annum greater or less than anticipated (giving a 21 bed shortfall/22 bed surplus), and the maximum realistic activity transferring to Weston (giving an 18 bed surplus). All these scenarios have a relatively small impact upon bed requirements.

However, the SHA has also conducted sensitivity analysis, which takes account of the underlying national rate of improvement in productivity rather than simply a standstill analysis based on current productivity benchmarks as the Trust analysis above is. This gives a range of bed requirements which is lower, as shown in Table 6.6ii below:

Table 6.6.ii SHA bed sensitivity analysis

	Best case	**Appointment Business Case**	**Worst Case**
Beds required	612	768	949
Difference to Appointment Business Case	-156	-	+181

This shows that there is a best case in which bed demand is 156 beds lower than the capacity of the new hospital, and a worst case in which it is 181 beds higher. As explained above, in light of this analysis, the Trust is now increased its productivity targets to plan for a demand for beds 50 below the 768 acute beds planned for the new hospital.

The advantage that the BHSP has in this development is that the PFI only accounts for around 30% of the total bed capacity between the local Trusts. Furthermore, NBT has not committed all its bed capacity to the PFI. This allows the use of a bed buffer to insure the development against either over or under capacity. This position is shown in the following table:

Table 6.6.iii Contingencies

	Impact on beds required	**Percentage of baseline beds**
Contingencies for lower bed requirement in 13/14		
Incorporate obstetrics services into the PFI	97	c 12%
Incorporate intensive rehab spells into the PFI	Up to 40	c 5%
Shell or mothball beds for up to 5 years growth post 2013/14	Up to 60	Up to 7.5%
Accommodating potential BHSP transfers	Subject to future BHSP	
Contingencies for higher bed requirement in 13/14		
Retain Cotswold and Malvern beds (included at OBC stage)	48	c 6%
Retain the Avon Orthopaedic Centre and Renal Unit	100	c 12%

The contingencies shown for a higher bed requirement cover a higher demand of 148 beds. The SHA analysis indicates a worst case position of an additional requirement of 181 beds, and the Trust analysis indicates a scenario of no performance improvement at all would give a 276 bed shortfall.

Both of these scenarios are extremely unlikely and the contingency is considered adequate.

The other key issues in terms of contingency planning:

- The rooms in the PFI have been designed to a standard template that allows flexible use e.g. between theatres, catheter laboratories and imaging.
- The PFI bidders have designed the scheme to be able absorb a further 200 beds.
- The planning permission for the scheme allows for additional 30% capacity.

7. CAPITAL COST AND AFFORDABILITY

7.1 Financial Context

The OBC described how the Trust accumulated a deficit of £44m in 2002/3 and subsequently put in place a recovery programme that it was on track to meet. Since the OBC the Trust has achieved its target to get into recurring balance and is now on an agreed programme to repay the £52m debt incurred as a consequence of the £44m deficit. The repayment plan is shown in the following table:

Table 7.1.i Repayment plan for £52m historical deficit loan

	31-Mar-07 £m	2007/8 £m	2008/9 £m	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	Total £m
Minimum I&E surplus		4.0	9.0	6.2	7.9	9.0	8.8	44.8
Capital receipts/change in working capital			4.0	2.0	0.5	0.7		7.2
Outstanding Loan	52.0	48.0	35.0	26.9	18.5	8.8	0.0	
Cumulative I&E deficit	44.8	40.8	31.8	25.7	17.8	8.8	0.0	

The Trust is on track to meet its planned repayments, and the repayment period ends in advance of the PFI commencement.

7.2 Capital Cost

The OBC assumed completion of the scheme by 2013/14 at a capital cost of £374m (MIPS 445). This included a combination of public funding for enabling costs and some equipment, and PFI funding for the bulk of the scheme. This equates to a capital spend of £491m at out-turn prices. The capital cost of the scheme is now marginally lower at £481m. The PFI element is £435m of the total. This is based on Carillion's bid of £429.7m at BAFO stage, together with an estimated £5.3m for improvements to the Carillion scheme at BAFO. These improvements comprise an increase to the size of the single bedrooms and additional medi-rooms to support the theatre complex. The unitary payment consequence of these changes is reflected in the planned unitary payment, as described in section 7.3 below.

Table 7.2.i Capital cost

	OBC at 2005 prices	PSC at outturn prices	ABC at outturn prices
	£m	£m	£m
PFI capital cost including equipment	336	446	435
Associated PFI enabling works	26	31	39
S106 Costs			3
Equipment publically funded	12	14	4
Total	374	491	481

Note: The £4m for equipment excludes £7m of minor equipment items charged to revenue and included in Table 10.3.5i.

As the table indicates, the Trust is funding a further £8m of enabling works over and above the level in the OBC, and removing this from the scope of the PFI contract. This improves value for money and affordability.

Table 7.2.ii shows the Trust's summary capital expenditure and funding plan over 2007/8 to 2013/14:

Table 7.2.ii Capital Expenditure

	07/08 £m	08/09 £m	09/10 £m	10/11 £m	11/12 £m	12/13 £m	13/14 £m	Total £m
Expenditure								
Pre-PFI enabling	7.9	15.3	7.8					31.0
Advanced enabling			8.0					8.0
Section 106 costs					0.9	0.9	0.9	2.6
Equipment for the scheme							4.0	4.0
Sub total PFI related	7.9	15.3	15.8	0.0	0.9	0.9	4.9	45.5
Other	25.0	32.6	25.2	29.4	28.9	26.6	11.2	179.0
Total expenditure	32.9	47.9	41.0	29.4	29.8	27.5	16.1	224.5
Funding								
PDC- enabling	6.8	16.0	8.1					31.0
PDC - other	11.0	16.1	7.9					35.1
Normal depreciation	15.1	15.8	16.2	17.6	18.7	19.2	20.1	122.5
Accelerated depreciation			5.4	11.8	9.1	9.4	5.1	40.8
Other sources			3.3		2.0			5.3
Total Funding	32.9	47.9	41.0	29.4	29.8	28.6	25.2	234.7
Net surplus	0.0	0.0	0.0	0.0	0.0	1.1	9.1	10.2
Provision for SHA smoothing	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	-4.9
Surplus	0	0	0	0	0	1.1	4.2	5.3

Funding sources exceed planned expenditure £5.3m over the period to 2013/14. Therefore, the capital expenditure directly related to the ABC, together with other schemes supporting the new hospital and all other planned capital expenditure, is affordable within the available resources, with a modest surplus for contingency purposes.

7.3 Unitary Payment

The Unitary Payment (UP) resulting from the PFI financing element of the capital cost is shown in the following table:

Table 7.3.i: Unitary payment adjusted for risks provision

[REDACTED]

The risk-adjusted unitary payment shown above is £34.5m at 2008/9 price and is based on the following assumptions:

- Commercial bank funding is available for 50% of the senior debt at the time of the funding competition in autumn 2009, with an assumed LIBOR for a 25 year swap of 3.8%, a margin of 2.5% and a buffer of 0.5%. Funding from the European Investment Bank (EIB) has been planned for the balance of the senior debt. The EIB has indicated its intention to invest in the scheme subject to credit committee approval on selection of the preferred bidder. The full funding terms are set out in Section 12.4 and in Appendix 10.ii.

- The Trust finances £8m of advance enabling works (in addition to the originally planned £31m) and also £2.6m of Section 106 planning costs, out of its capital programme.

- Adjustments have been made to the Carillion proposed unitary payment to allow for further improvement to the theatres accommodation and bedroom space within the scheme, and take up a Carillion offer to contractually underwrite energy consumption at 40 Gj/m^3 (instead of 45 GJ/m^3) for a £**[REDACTED]** increase in unitary payment. The total adjustment for these three elements is £**[REDACTED]** . There is a £**[REDACTED]** downward adjustment as the Trust plans to fund second stage demolition costs (c **£[REDACTED]**) directly from transitional funds and this was included in the bidder unitary payment proposals at BAFO.

- A reduction of £180k has been made to reflect plans for the Trust to purchase a small number of the radiology analysers currently included in the PFI contract, where replacement of the existing analysers is required before the new hospital opening.

- A risk provision of 0.3m has been set aside for potential changes in cost prior to financial close. This is based on a 50% risk provision for both a potential 1.5% increase in cost due to design risk and the impact of a potential 9 month delay in financial close. The bids received are subject to a 6 month absolute price hold, so the impact of a 9 month delay would be an increase in cost for a 3 month delay.

The £34.5m unitary payment on this basis at a 2008/9 price base is slightly in excess of the base affordability plan previously defined by the Trust of £34.2m. However it is well within the DH cap based on the PSC of £39.2m, and the subsequent revised £37.6m cap on the unitary payment agreed when permission by the Department of Health was given to close the dialogue. There remains £3.1m headroom above the risk-adjusted unitary payment before the unitary payment cap would be breached, which is almost 10%.

Under HM Treasury's application of International Financial Reporting Standards (IFRS) in relation to PFI contracts and similar arrangements, this PFI scheme should now be accounted for as "on balance sheet". This means that there will be a charge to the Trust's income and expenditure account consists of finance lease interest, operating costs and depreciation and PDC dividend.

There is an higher average revenue cost through the contract term associated with the scheme being accounted for under IFRS in comparison with the previous off balance sheet accounting approach, largely as a result of the impact of depreciation and capital charges. An agreement has been reached between the Trust and NHS South West PCT's to fund this additional cost. Funding will be provided to cover the difference between the on balance sheet charge and the off balance sheet charge, to put the Trust in the same position as it would have been had the scheme been accounted off balance sheet (i.e. £4.5m below the actual unitary charge payment). This funding will be capped at £4.0m at a 2008/9 price base (which equates to approx £4.7m at 2013/14 prices when the building is planned to open).

However, in addition, the revenue impact of going on balance sheet varies through the term of the contract. In the early years the revenue charge is greater than the average, and the position is reversed in the second half of the concession period with the charge being less than the average. The SHA have agreed to provide smoothing funds to keep the annual impact constant.

The table below shows a summary of the impact of on balance sheet accounting, together with impact of the PCT funding and the SHA smoothing mechanism:

Table 7.3.ii: Impact of unitary payment on income and expenditure

[REDACTED]

The table indicates that the projected impact of going on balance sheet averages £3.3m per annum less than the unitary payment in cash terms. Thus, under the terms of the agreement with PCTs, a PCT tariff supplement of £1.2m is assumed. The actual impact will depend critically on the assessed fair value of the hospital on completion. These figures are based on an assumption of a fair value at 90% of the cost of construction. The highest valuation that could be expected would be 100% of the cost of construction. In this event, the impact of going on balance sheet averages £1.2m less than the unitary payment in cash terms, and the PCT tariff supplement would be £3.3m.

Normalised unitary payment

This is the unitary charge to revenue adjusted to put it on a like for like footing with other schemes. The Department of Health has set a cap for the normalised unitary charge at 12.2% of turnover. The estimated normalised unitary charge for the scheme of £44.1m equates to 10.0% of estimated turnover, and so is well within the cap. If the unitary payment increased to the agreed cap of £37.6m, the normalised unitary charge would still be well within the 12.2% cap.

The normalised UP is summarised in the following table:

Table 7.3.iii: Normalised unitary payment as a percentage of turnover

	OBC at 2005/6 prices £m	OBC at 2008/9 prices £m	ABC at 2008/9 prices £m
Risk adjusted unitary payment	36.4	39.2	34.5
Impact of accounting treatment on charge to revenue	-3.6	-3.9	-3.3
Adjustment to convert to a normalised unitary payment	12.0	12.9	12.9
Risk-adjusted most likely normalised unitary payment	44.8	48.2	44.1
Projected turnover 2013/14 @ 2008/9 prices			439.0
Normalised UP as a percentage of turnover	12.2%	12.2%	10.0%

7.4 Savings

The table below shows the synergy and performance savings arising as a direct result of the PFI scheme:

Table 7.4.i Operational cost savings resulting directly from the new hospital

	Performance Improvement enabled by new hospital	Two or more Departments reduced to one	Design Related Savings	Savings '08/09 prices £000/year	Savings WTE
Synergy Savings:-					
Theatres, Daycase unit and Recovery		×	×	2,309	100.4
Pharmacy, Radiology and Pathology		×		1,149	31.3
Outpatient Nursing		×	×	296	10.3
Nursing (not ward based includes clinical site management team)		×	×	596	14.5
Junior doctor rotas and consultant on call rotas		×		527	0.0
Therapy Services		×		380	11.0
Management and Admin Staff		×	×	1,271	31.8
Travel and Transport		×		455	6.0
IT Costs		×		386	0.0
Catering & Restaurant		x		662	49
Portering		x		417	18
Security		x		250	0
Other Facilities Support		×		222	7.0
Non Pay Harmonisation though procurement		×		150	0.0
				9,070	279
Lower Nursing Costs of Larger Wards			×	1,638	65.8
Bed savings - 50 beds	×			2,594	62.5
Further Performance Savings	×			2,594	62.5
Total Savings				**15,897**	**469.2**

The savings above arise from three key drivers:

- Performance improvements enabled by the new hospital resulting in lower bed numbers.
- Achievement of significant economies of scale resulting from services currently provided from two or more locations being provided from one location in the new hospital. The move to a single site also reduces the cost of out of hours junior doctor and emergency theatre staffing, reduces management costs and avoids cross-site transport costs.
- Savings enabling by the design of the new hospital. The large flexible wards designed for the new hospital reduce staffing costs, even taking account of the fact they include 75% single rooms. A single medi-room facility integrating the current traditional separate daycase and recovery areas enables more productive use of capacity and staff. The move to an integrated outpatient area reduces staffing costs by allowing more flexible use of nursing staff and reception staff.

7.5 Overall Revenue Impact

The table below shows the overall revenue impact of the scheme:

Table 7.5.i Recurring revenue impact of the new hospital

	OBC	ABC
	£m	**£m**
Revenue Impact of PFI charges for new Hospital		
Average charge to revenue resulting from PFI contract	35.3	30.8
Provision for UP adjustments including risk		0.4
Average SHA smoothing		0.0
PCT Tariff supplement		(1.2)
	35.3	**30.0**
Other costs associated with the new hospital scheme		
Capital charges on associated enabling works & equipment	1.9	3.1
Premises running costs of new hospital & enabling schemes	7.8	10.2
Impact on third party income	(0.8)	(0.1)
	8.9	**13.2**
Gross cost of the new hospital scheme	**44.2**	**43.2**
Costs savings from release of existing accommodation		
Premises running costs	(11.4)	(10.7)
Capital charges	(13.2)	(11.4)
	(24.7)	**(22.2)**
Operating cost savings		
Synergy and design related savings	(9.5)	(10.7)
Performance related savings	(6.5)	(5.2)
Total savings	**(15.9)**	**(15.9)**
Net recurring revenue impact	**3.6**	**5.1**
Net recurring revenue impact if UP was at base level before risk		**4.9**
Net recurring revenue impact if UP was at the cap level		**8.2**

This table shows the risk adjusted unitary charge of £30.0m (net of the PCT tariff supplement to reflect balance sheet treatment), plus additional consequential costs of £13.2m, giving a total gross revenue impact of £43.2m. This cost is off-set by:

- £22.2m of capital charges and premises costs being released from Frenchay and Southmead.
- £15.9m of synergy and performance savings attributable to the scheme.

The resultant net recurring revenue impact is £5.1m on a risk adjusted basis, which equates to approximately 1.1% of trust turnover. If the risk could be managed out this net cost would be £4.9m, whilst if the full risk impact, including the maximum potential exceptional funding costs resulted it would be £8.2m. Appendix 10.v. shows the revenue impact on a year by year basis.
The £5.1m net recurring cost is affordable as the Trust is generating surpluses in its medium term financial plan sufficient to absorb this net cost and remain in surplus. The projected surplus in 2015/16 (after taking account of the cost of the new hospital) is £11.9m. This is demonstrated in section 10.3.6 below.

7.6 Transitional Income and Expenditure

The post completion transitional income assumed is based on the national formula for transitional cost funding, which is 7.5% of the VAT inclusive scheme capital cost. The capital cost of the scheme on this basis is £543.3m, and so the proposed transitional funding is £40.7m. While the final figure will depend on the actual capital cost at confirmatory business case stage, the principles of its calculation have been agreed with the SHA which will provide the funding. The assumed phasing matches the projected cost profile including project team costs post financial close that are not able to be funded from the pre-completion project funding sources.

Table 7.6.i Post completion transitional costs and income

	Capital cost £m	% funding £000	Funding £000							
Capital cost at outturn including VAT	543.3	7.5%	40.7							
	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	2014/15 £m	2015/16 £m	2016/17 £m	2017/18 £m	Total £m
One-off transitional costs										
Disposal of Frenchay land						0.5	0.5		0.0	1.0
Decommisioning/double running costs	0.0	0.0	0.0	0.0	2.0	0.3	0.0	0.0	0.0	2.2
Minor equipment and other initial costs charged to revenue (Category E & D)	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	7.1
Excess travel	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.2	1.2
Premises release phasing difference	0.3	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	1.0
Phasing of savings	0.0	0.0	0.0	0.0	2.6	4.8	3.2	1.5	0.0	12.1
Redundancy, temp. excess staff & agency premium	0.0	0.0	0.0	0.0	2.1	0.0	0.0		0.0	2.1
Capital charge release timing difference	0.0	0.0	0.0	0.0	1.5		0.0	0.0	0.0	1.5
Project team	1.6	1.5	1.5	1.5	1.5	0.5	0.3			8.4
Phase 2 demolition costs & contingency	0.0	0.0	0.0	0.5	4.2	0.0	0.0	0.0	0.0	4.7
Total transitional costs	**2.0**	**1.7**	**1.6**	**2.1**	**21.3**	**6.4**	**4.2**	**1.8**	**0.2**	**41.3**
Total transitional income	**2.0**	**1.7**	**1.6**	**2.1**	**20.8**	**6.4**	**4.2**	**1.8**	**0.2**	**40.7**

The pre-completion project management and procurement cost of the scheme is £6.8m. This has been met from NHS Bank and SHA project funding totalling to the same sum.

7.7 Impairment and Accelerated Depreciation

The transitional costs exclude impairment and accelerated depreciation costs, which are treated as exceptional non-cash items in the accounts of the Trust.

The projected profile of these costs from 2009/10 is as follows:

Table 7.7.i Impairment and accelerated depreciation

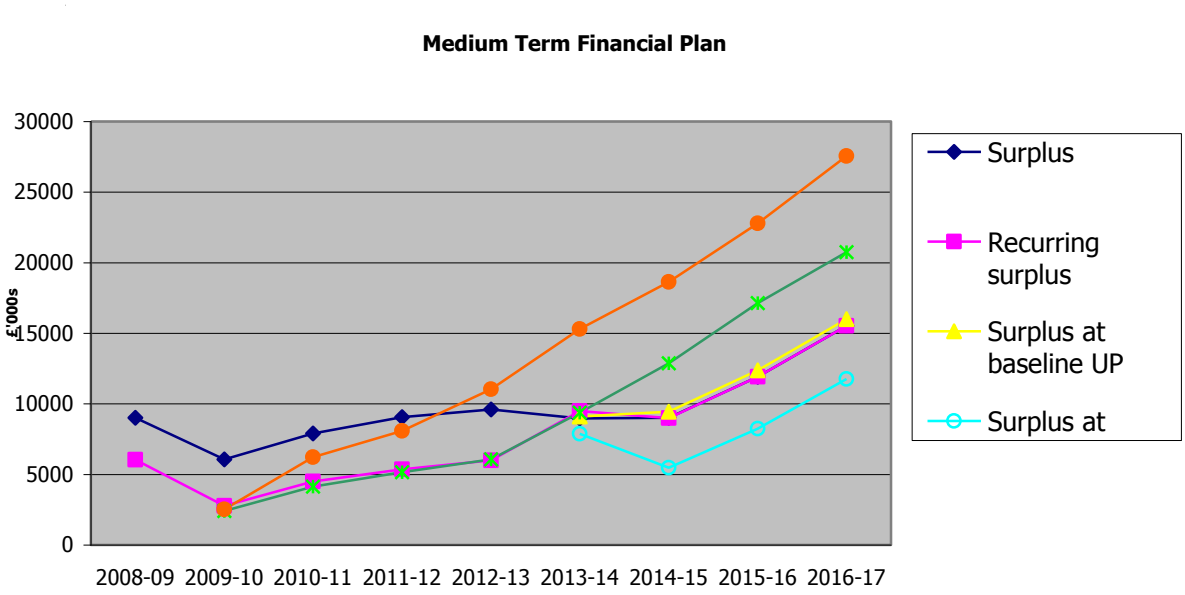
	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	2014/15 £m	TOTAL £m
Impairment - existing site	23.1	6.4	0.0	1.2	0.0	17.4	48.1
Accelerated depreciation - existing site	5.4	11.8	9.1	9.4	5.1	0.0	40.7
Impairment of PFI building on coming into use					165.6		165.6
Total	28.5	18.1	9.1	10.6	170.8	17.4	254.5

Impairment costs are exceptional non-cash charges that from 2009/10 are likely to be disregarded in assessing Trust financial performance, including the breakeven duty. The costs of accelerated depreciation will be met by earmarked income from the Strategic Health Authority.

7.8 Medium Term Financial Plans Including the PFI Scheme Impact

The development fits in to the Trust's affordability plans as shown in the following chart:

Table 7.8.i Medium term financial plan



£m	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Surplus	9.0	6.1	7.9	9.1	9.6	9.0	9.0	11.9	15.5
Recurring surplus	6.0	2.8	4.5	5.4	6.0	9.5	9.0	11.9	15.5
Surplus at baseline UP						9.1	9.4	12.4	16.0
Surplus at capped UP						7.9	5.5	8.2	11.8

The graph shows the Trust maintaining a broadly stable recurring surplus over the period 2008/9 to the opening of the new hospital in 2013/14, and then developing increasing surpluses thereafter. This is because over this initial period the Trust is bearing the negative financial impact of net transfers out to other providers and the net cost of the new hospital scheme as set out in this Appointment Business Case. After 2013/14 the underlying potential for growth in surpluses is realised as no further BHSP transfers or new hospital costs then apply. This underlying potential is demonstrated by the scenarios shown in the graph of the resulting surpluses if the impact of transfers and the new hospital scheme is excluded.

The graph also shows the worst case position if the maximum UP was incurred and a best case position if the risk buffer was not required.

The key assumptions in this plan are shown in the following table:

Table 7.8.ii Medium term financial plan assumptions

	9/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
Income								
PCT tariff uplift	2.0%	1.2%	1.2%	1.2%	1.50%	1.75%	1.75%	1.75%
Non-healthcare inflationary uplift	2.0%	1.2%	1.2%	1.2%	1.50%	1.75%	1.75%	1.75%
Impact of HRG4	-0.5%							
Volume related income growth								
- general growth as % of income	0.0%	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%
- renal & HIV growth as % of income	8.0%	7.7%	7.4%	6.4%	6.2%	5.7%	4.9%	4.7%
- other growth as a % of income	2.6%	2.6%	2.6%	2.7%	2.7%	2.7%	2.7%	2.7%
Expenditure								
Pay increase	2.40%	2.50%	2.50%	2.75%	2.75%	2.75%	2.75%	2.75%
Agenda for change/incremental drift	1.50%	1.20%	1.00%	0.70%	0.00%	0.00%	0.00%	0.00%
Non NICE drug inflation	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
NICE drug inflation	4.7%	4.4%	4.1%	3.8%	3.4%	3.2%	3.0%	2.8%
Utilities Inflation	2.5%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Other Non Pay inflation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Overall non-activity related cost increases as % of cost base	4.8%	4.3%	4.4%	4.1%	3.8%	3.7%	3.7%	3.7%
Cost of activity changes as % of income where not specifically costed								
- general & other growth	65%	65%	65%	65%	65%	65%	65%	65%
- renal & HIV growth	90%	90%	90%	90%	90%	90%	90%	90%
- transfers	65%	65%	65%	65%	65%	65%	65%	65%
Cost releasing efficiency savings(not related to the ABC)	3.0%	3.5%	3.3%	3.2%	2.3%	2.2%	2.2%	2.1%

7.9 Sensitivity Analysis

Sensitivity analysis has been undertaken of both potential cost variations on the scheme itself, and variances on the Trust's overall forward financial plan outside of the new hospital scheme. A realistic combined downside scenario has then been generated from a selection of both scheme related and non scheme related sensitivities, and the Trust's mitigation plans tested against that scenario.

7.9.1 Sensitivity Analysis of the Scheme

A sensitivity analysis of potential scheme related variations from plan is shown below:

Table 7.9.1.i Scheme sensitivity analysis

	Change in PFI charge to revenue	Change in net revenue impact	PFI charge to revenue	Net revenue impact
	£m	£m	£m	£m
Base plan excluding risk			**30.8**	**4.9**
Capital cost variations against £435m base (delay and design risks)				
£440m	0.3	0.3	31.1	5.2
£444m	0.5	0.5	31.2	5.4
Underlying market rates vary from current (after taking account of 0.5% buffer)				
-1%	-5.2	-5.2	25.6	-0.3
-0.5%	-3.5	-3.5	27.3	1.4
0%	-1.7	-1.7	29.1	3.2
+0.5%	0.0	0.0	30.8	4.9
+1.0%	1.7	1.7	32.5	6.6
+1.5%	3.5	3.5	34.3	8.4
Impact of differential inflation between 2008/9 & 2013/14				
+0.25% p.a. greater uplift on cost decreases than cost increases		-0.6		4.3
+0.37% p.a. greater uplift on cost decreases than cost increases		-0.9		4.0
+0.5% p.a. greater uplift on cost decreases than cost increases		-1.2		3.7
Scheme synergy and performance plans				
10% Higher than Plan		-1.1	-1.1	3.8
10% lower than plan		1.1	1.1	5.9
Clinical performance 10% lower than planned		0.6	0.6	5.5
Best case scenario	**-4.9**	**-7.1**	**25.9**	**-2.2**
Worst case scenario	**4.0**	**5.6**	**34.7**	**10.5**
Risk allowance built into the risk-adjusted UP	**0.3**	**0.3**	**31.0**	**5.1**
Risk allowance built into the UP cap	**3.4**	**3.4**	**34.1**	**8.2**

This table shows four areas in the overall revenue cost of the scheme where there is considered to be greatest risk of variation:

- Increase in capital cost over the £435m adjusted bid cost reflecting design and delay risks. Scenarios of an increase of £5m (to £440m) and an increase of £9m (to £444m), taking account of the identified risks within the Trust risk register.

- Changes in rates and terms that can be achieved in the bank funding market after taking into account the 0.5% rate buffer that is built into the baseline unitary payment, or restrictions in the availability of bank funding that result in the Trust having to accept a more expensive form of finance (for example a Mini-Perm).

  The Trust asked bidders to bid at BAFO stage on the basis of bond finance and mini-perm finance as well as bank finance. The unitary payments submitted by Carillion for these three alternatives are shown in Table 7.9.1.ii below.

Table 7.9.1.ii Impact of alternative sources of finance

[REDACTED]

- This shows bond finance is £**[REDACTED]** per annum more expensive than bank finance, which is equivalent to bank finance being having an interest rate around **[REDACTED]**% higher than assumed in the base case. This is based on an extension of the PFI operating period to 35 years. The principle of this extension in the case of bond finance has been agreed with the PFU. The cost of a Mini-Perm is £**[REDACTED]** per annum higher which equates to bank finance having an interest rate approximately **[REDACTED]**% higher than the base case. Both alternative funding scenarios are thus within the unitary payment cap of £**[REDACTED]**. The Mini-Perm scenario is well within the cap, and would appear at this stage to be the preferred alternative if bank finance was not available.

- The sensitivity analysis shows the impact of finance costs being £**[REDACTED]** lower or £**[REDACTED]** higher than the base based on a maximum impact of variations equivalent to +/- 1.5% on bank interest rates.

- Impact of differential inflation where the Trust may gain from a higher inflation impact on cost releases and savings (capital asset charges and staff savings) than on cost increases (primarily the unitary payment linked to RPI).

- Scheme related synergy and performance savings being under or over achieved.

The table (7.9.1.i) shows a worst case position of the unitary payment being £4.0m higher than planned, and the overall net cost £5.6m higher, and a best case position of a unitary payment £4.9m lower than planned, and a net revenue impact £7.1m lower.

These extremes are unlikely. The realistic downside risks are largely around any further increase in bank funding rates and/or terms, and the risk of not fully achieving the planned savings. The risk of a further increase in funding rates could potentially be managed by deferring financial close or through the fact that the Mini-Perm funding model could result in the unitary payment being less than the quoted level if market bond terms had improved by the time of refinancing. The general risk of increased costs due to problems accessing commercial finance has been reduced by the recent Treasury announcement that it is prepared to provide senior debt funding in certain circumstances where commercial debt was not available or was not economic.

The risk allowance allowed for in the unitary payment cap is £3.4m over the base plan excluding risk, and this is a reasonable reflection of a realistic worst case scenario. The impact of this scenario, alongside the scenario of the risk provision in the risk-adjusted unitary payment not being required, has then been incorporated into an analysis of the sensitivity of the Trust's overall medium term financial plan, as described in the next section.

7.9.2 Overall Trust Financial Plan Sensitivity Analysis

A sensitivity analysis of the Trust's overall medium term financial plan has also been undertaken. This assumes that the net financial impact of the new hospital scheme is within the range described in the section above; that is between £4.9m and £8.2m with a risk-adjusted base case of £5.1m.

The sensitivities that have been analysed are as follows:

- Impact of general activity growth 0.5% lower than projected 2009/10 to 2016/17
- Impact of general activity growth 1.0% lower than projected 2009/10 to 2016/17
- Impact of CIPS achievement 5% lower than planned over 2009/10 to 2016/17
- Impact of CIPS achievement 10% lower than planned over 2009/10 to 2016/17

The impact of these scenarios on the projected surplus in 2016/17 is shown in Table 7.9.2.i below:

Table 7.9.2.i. Medium term financial plan sensitivity analysis

	Cumulative Income Impact in year 8 (2016/17)		I&E Impact in Year 8 (2016/17)	Revised I&E surplus/(deficit) in year 8 (2016/17)
	£m	% change in	£m	£m
Baseline surplus				
New hospital scheme net cost on base plan before risk				16.0
New hospital scheme net cost on risk adjusted plan				15.5
New hospital scheme net cost on UP cap basis				11.8
Impact of general activity growth 0.5% lower per annum	-18.5	-3.9%	-6.5	
New hospital scheme net cost on base plan before risk				9.5
New hospital scheme net cost on risk adjusted plan				9.1
New hospital scheme net cost on UP cap basis				5.3
Impact of general activity growth 1.0% Lower per annum	-36.3	-7.7%	-12.7	
New hospital scheme net cost on base plan before risk				3.3
New hospital scheme net cost on risk adjusted plan				2.8
New hospital scheme net cost on UP cap basis				-0.9
CIPS achieved 2008/9 to 2016/17 5% below plan			-5.0	
New hospital scheme net cost on base plan before risk				11.0
New hospital scheme net cost on risk adjusted plan				10.5
New hospital scheme net cost on UP cap basis				6.7
CIPS achieved 2008/9 to 2016/17 10% below plan			-10.0	
New hospital scheme net cost on base plan before risk				6.0
New hospital scheme net cost on risk adjusted plan				5.5
New hospital scheme net cost on UP cap basis				1.7

The switching points at which reduced activity growth or CIPS under-achievement would taken the Trust into deficit in 2016/17 are shown below in Table 7.9.2.ii:

Table 7.9.2.ii.Switching points at which the Trust would move into deficit in 2016/17

	Switching point at which Trust would move into deficit in 2016/17
Annual reduced growth below projected level 2009/10 to 2016/17	
New hospital scheme net cost on base plan before risk	1.2%
New hospital scheme net cost on risk adjusted plan	1.2%
New hospital scheme net cost on UP cap basis	0.9%
Percentage CIPS under-achieved over 2009/10 to 2016/17	
New hospital scheme net cost on base plan before risk	15.9%
New hospital scheme net cost on risk adjusted plan	15.5%
New hospital scheme net cost on UP cap basis	11.7%

This shows that if the UP for the new hospital scheme was at its cap, then the Trust would move into deficit by 2016/17 if either activity growth was 0.9% per annum under the base plan or if savings were 11.7% below plan.

7.10 Combined Realistic Downside Scenario offset by Mitigation

We then combined the scheme and non scheme related downside risks to generate a realistic combined downside scenario, and tested the Trust's mitigation plans against that scenario.

The downside risks included in the scenario are as follows:

- 1.5% per annum lower PCT tariff uplift from 2011/12, to reflect a worst case impact of the current economic climate. The base plan assumes tariff uplifts over this period of between 1.2% and 1.5%, so this downside sensitivity is covering a scenario of small negative tariff uplifts over the period.
- 1.0% lower annual growth in activity from 2009/10. Again, this reflects the potential impact of the economic climate on NHS funding.
- A £9m increase in capital cost to £444m.
- An increase in funding rates and terms equivalent to a 1.5% rate increase on senior debt.
- Synergy savings 10% lower than plan.
- Clinical performance savings 10% lower than plan.

In the event of these risks occurring, the Trust would mitigate them in the following ways:

- The impact of lower growth could be mitigated by taking out the resultant spare capacity. As outlined in section 5.7.2, the Trust would intend to do this by moving services remaining in retained estate into the new hospital, and then taking out or re-using that estate. This releases costs of £1m per annum.

- Internal discretionary investment in service improvement could be reduced. An average of £1.7m per annum is built into the medium term financial plan, equating to £13.6m over the 8 year period. If necessary, this could be scaled back. It is assumed in the mitigation plan that it could be halved.

- It is assumed that in the event of tariff uplifts as low as the worst case scenario, then cost pressures driven by national policy decisions (pay rises e.t.c) would be managed down to some extent. A 0.5% annual reduction is assumed from 2010/11.

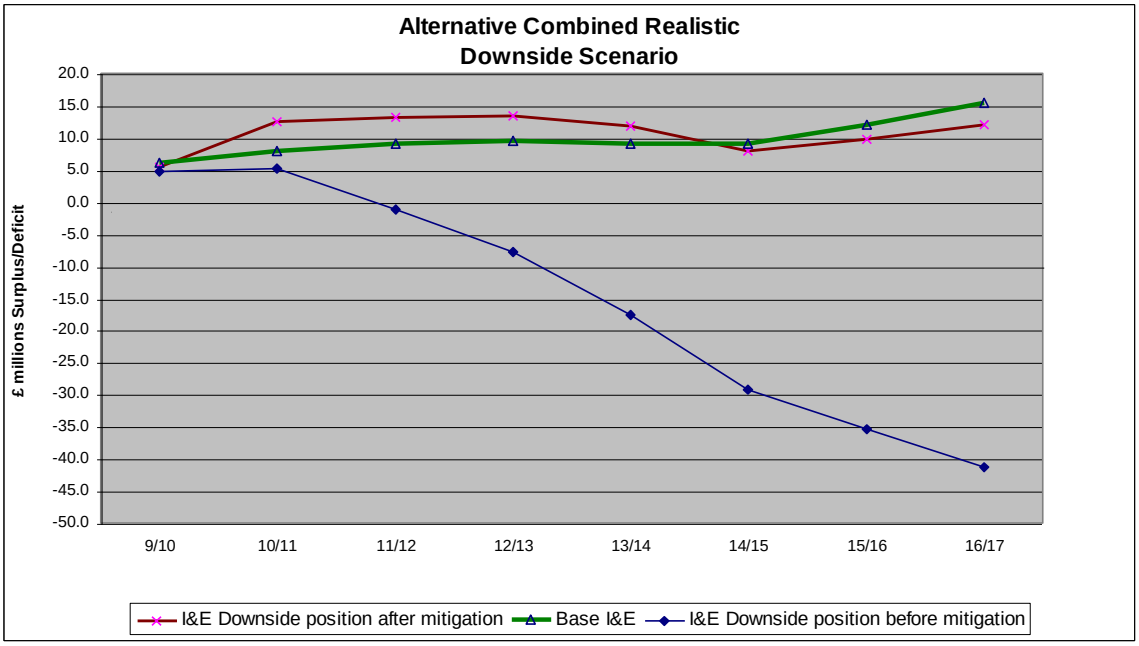
- Seek to achieve increased efficiency savings. Currently, the Trust's average savings planned over this period are 2.7% of expenditure. In the event of the worse case tariff uplifts occurring, the Trust would target annual savings at least 0.75% per annum higher, thus averaging 3.5%. Historically, the Trust has achieved savings in excess of this level in percentage terms, as shown in Table 10.2ii. The higher level of savings could also be assisted by the potential that exists for further integrating and rationalising clinical services and non-clinical support services across the Bristol region.

The results are shown in Tables 7.10.i and 7.10.ii below:

Table 7.10.i Tabular analysis of combined realistic downside scenario before and after mitigation

	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	2014/15 £m	2015/16 £m	2016/17 £m	Total cash impact over period
Combined realistic downside scenario									
1.5% tariff reduction per annum from 2010/11	0.0	0.0	-5.9	-11.7	-17.7	-24.4	-31.4	-38.9	-130.1
1.0% less growth in activity from 2009/10	-1.4	-2.8	-4.3	-5.7	-7.2	-8.9	-10.7	-12.7	-53.6
£9m increase in capital cost	0.0	0.0	0.0	0.0	-0.2	-0.5	-0.5	-0.5	-1.7
Funding cost higher equal to 1.5% rate increase	0.0	0.0	0.0	0.0	-1.1	-3.5	-3.6	-3.7	-11.8
Synergy savings 10% lower than plan	0.0	0.0	0.0	0.0	-0.3	-1.1	-1.1	-1.1	-3.6
Clinical performance improvement 10% lower than planned	0.0	0.0	0.0	0.0	-0.2	-0.6	-0.6	-0.6	-2.0
Total I&E change	**-1.4**	**-2.8**	**-10.2**	**-17.4**	**-26.5**	**-38.3**	**-47.3**	**-56.9**	**-200.8**
Base I&E	**6.1**	**7.9**	**9.1**	**9.6**	**9.0**	**9.0**	**11.9**	**15.5**	**78.0**
I&E for downside scenario	**4.7**	**5.1**	**-1.1**	**-7.8**	**-17.6**	**-29.3**	**-35.4**	**-41.4**	**-122.7**
Mitigation									
Reduce cost of internal developments by 50% per annum	0.8	1.7	2.6	3.6	4.5	5.4	6.1	6.8	31.5
Remove spare capacity outside of the PFI in the event of lower activity					0.3	0.9	0.9	1.0	3.1
Lower annual cost pressures by 0.5% per annum from 2010/11		2.3	4.7	7.0	9.9	12.4	15.2	18.2	69.7
Increase savings by 0.75% per annum	0.0	3.4	7.0	10.5	14.8	18.6	22.9	27.3	104.5
Total Mitigating Items	**0.8**	**7.4**	**14.3**	**21.2**	**29.4**	**37.2**	**45.2**	**53.4**	**208.8**
I&E position after mitigation	**5.5**	**12.5**	**13.2**	**13.4**	**11.8**	**7.9**	**9.8**	**12.0**	**86.1**

Table 7.10.ii Graphical analysis of combined realistic downside scenario before and after mitigation



Normalised surplus/-deficit	9/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
	£m	£m	£m	£m	£m	£m	£m	£m
Base I&E	6.1	7.9	9.1	9.6	9.0	9.0	11.9	15.5
I&E Downside position before mitigation	4.7	5.1	-1.1	-7.8	-17.6	-29.3	-35.4	-41.4
I&E Downside position after mitigation	5.5	12.5	13.2	13.4	11.8	7.9	9.8	12.0

The two tables show that the combined downside scenario has a negative I&E impact of £56.9m by 2016/17, taking the I&E position in that year from a £15.5m surplus to a £41.4m loss before mitigation is taken into account. The impact of mitigation is £53.4m by 2016/17, giving a resulting £12.0m surplus after mitigation.

The biggest individual adverse element of the combined downside risk scenario is the impact of the tariff uplift being 1.5% lower than assumed in the base case. This accounts for £38.9m out of the £56.9m total downside impact by 2016/17. The combined effect of all the other elements is £18.0m by 2016/17. The Trust's mitigation plans can cover the other elements without relying on additional savings. However, the lower tariff uplift is of a scale that it can only be managed by increasing annual efficiency savings by and reducing inflationary cost pressures. If the combination of these two areas of mitigation was 1.25% per annum as modelled, the Trust would remain in healthy surplus. The combination would need to be at least 0.9% per annum to avoid the Trust moving into deficit. Clearly this is a risk, but it is risk that the Trust (and all Trusts) face whether or not the Trust was to proceed with the PFI scheme.

8. PROCUREMENT

8.1 The Scheme Brief

The PFI brief is for the development of the acute and community hospital on the Southmead site, plus related landscape and infrastructure. The PFI scope includes hard FM, major medical equipment and 3rd party retail and is summarised in the following table:

Table 8.1.i PFI scope

	Building	Hard FM	Soft FM	IT	Equipment	Enabling
Southmead Acute	PFI	PFI	Trust	Trust	Trust/PFI	Trust
Southmead Residual Estate	Trust	Trust	Trust	Trust	Trust	NA

The Trust laid out a Long Range Development Plan to provide a coherent framework for design development within the site. The Trust then undertook a series of enabling schemes to clear a part of the site to make way for the PFI.

For the PFI, the Trust has set out six design specific goals which are critical to the success of the scheme:

- **Innovation in Patient Care:** The new hospital should apply radical, cutting edge design to provide a state-of-the–art hospital environment geared for top performance in patient care.

- **Flexibility:** The environment should be extremely flexible to respond to changes in the way healthcare is provided. The Trust is determined to create an environment that can constantly evolve and adapt. Standardisation will contribute to this goal.

- **Clear, Welcoming Urban Site:** The hospital site should be welcoming and logically laid out to the best principles of urban design and landscape design. Facilities and spaces should create an environment which uplifts and is consistent with, and blends with the external environment.

- **Connecting the Inside to the Outside**: The inside of the hospital should be connected and in harmony with the outside. This will be achieved by the use of landscaped courtyards, sympathetic glazing, open and interesting circulation, and non institutional patient and staff areas.

- **Excellent Finishes:** The hospital finishes should be intelligently planned and executed, avoid institutional blandness, exemplary in terms of use of materials and workmanship and significantly above the normal hospital standard.

- **Sustainable Development:** The facilities should achieve the highest standards of energy efficiency and a minimal carbon output. Maximum use should be made of sustainable practices during construction and work to minimise the operational carbon footprint. They should take maximum account of, anticipate and allow for future changes in 'green technologies' and environmental legislation.

8.2 The Clinical Design Brief

The Trust's proposals have been developed to support the clinical model as described above, with two key areas of focus:

- The new hospital will have a high degree of flexibility to capture changing requirements for healthcare over time including the increase in care provided at home and in community settings.

- The new hospital is designed to provide for the delivery of a sharp increase in efficiency and effectiveness of services.

To deliver against these objectives, the hospital has adopted five overarching functional design principles:

- The hospital will be arranged in a number of zones, to provide generic units of accommodation that will be able to flex their use over time:
  - Urgent and Emergency Care Zone
  - Inpatient Zone
  - Ambulatory Care Zone
  - Core Clinical Zone
  - Support Zone
  - Integrated Community Hospital providing services within the Ambulatory Care Zone, Urgent & Emergency Care Zone, and Inpatient Zone.
- The rooms within the zones will be standardised where possible and designed to cover a variety of uses, to allow change of function over time.
- The facilities will be designed to create the setting for integrated care packages such that wherever possible patients will not have to move around to different services but the services will come to them. This concept has two particular implications:
  - Rooms are designed to accommodate a range of activities, including diagnostic testing.
  - Where this cannot be achieved, diagnostics are arranged so that patients will be able to access them without having to travel down corridors into different departments.
- The hospital is being designed to encourage team working and in particular to support two concepts – one of expert teams delivering highly specialist care within the acute hospital and another of clinical teams providing whole spectrum specialist care across the community and the hospital. The building will reflect this team-based rather than individual approach and encourage teams to be more closely connected with primary care and community services.
- The designs must achieve a separation of high tech facilities away from lower tech areas such as wards. Within this separation, there are a number of main principles:
  - The core of clinical diagnostic and treatment services should be located to enable equal and easy access for both the emergency and acute patients and for ambulatory and community patients.
  - The time, inconvenience and clinical risk of the patient's journey from inpatient units to diagnostic and treatment services should be minimised.
  - The facilities for high-tech clinical services, such as surgical theatres and imaging, must be optimally laid out to allow for servicing and support and for adaptability to changing needs.
  - The facilities for lower-tech patient support services, such as inpatient units, must be optimally laid out and capable of responding to the Trust's model of patient care, patient-focused, and adaptable to changing needs.

The zones within the hospital have been created to give the opportunity to provide elements of accommodation that have a particular purpose and/or a requirement for a particular type of accommodation. The Trust intends that this will have a number of benefits including:

- The ability to flex use within the zones over time and increase or decrease capacity within areas within each zone.
- Logical way finding and the ability to stream patients, staff, visitors and goods into the correct area as simply as possible.
- Simple and efficient construction with the ability to group types of rooms e.g. high-tech into the same part of the hospital.
- An energy efficient building with naturally ventilated areas collected in logical groupings separate to heavily engineered environments.

The zones must allow specialist services to maintain their coherence and meet national specifications. To this end, the designs have been developed to allow the elements of specialist services, e.g. burns services and neurosciences to be in close proximity. In particular ITU beds general beds, theatres and in the case of neurosciences imaging have all been collected together in the specification.

A summary of the response of the scheme specification to the specialist services agenda is shown in the following table:

Table8.2.i Treatment of specialist services within the scheme

Service	Elements to be clustered with direct adjacencies	Elements to be in convenient access	Key co-locations with other services	Trends to be accommodated
Neurosciences	Beds, ICU beds, theatres, imaging	Offices, outpatients, neurophysiology	Emergency and acute unit, helipad, stroke services, other head and neck specialties	Development of integrated neuro/stroke centre. Intra-operative imaging. Creation of trauma centres
Burns and plastics	Beds, ICU beds, theatres	Offices, outpatients, laser centre	Emergency and acute unit, helipad, trauma services	Centralisation of services to take larger catchments. Creation of trauma centres
Specialist orthopaedics	Beds, theatres, imaging	Offices, outpatients	Emergency and acute unit, helipad	Creation of trauma centres
Renal medicine	Beds, acute dialysis	Offices, outpatients	Medical day-care	Increase in incidence

8.3 Sustainability

The Trust set high requirements for the achievement of a sustainable development including:

- An energy consumption target of 45GJ/100m3 which is below the national ceiling of 55GJ/100m^3
- Use of energy saving technologies wherever possible.
- A requirement for 20% renewables as source of energy for the operation of the facility (Bristol City Council has confirmed its requirement for 10% renewables as planning policy and the Trust requires a further 10% renewables to be used).
- A requirement of no more than 3.434Te/100m3 carbon production (which encouraged the use of alternative energy production options such as bio-fuel.
- An 'Excellent' rating in the NHS Environmental Assessment Tool (NEAT) and subsequently an 'Excellent' rating in the Building Research Establishment Environmental Assessment Method (BREEAM for Healthcare).
- A Site Waste Management Plan (SWMP) to be developed for the scheme (in advance of legislation coming into force in April 2008 making this a requirement) to minimise the transfer of waste to landfill and maximise reuse or recycling of waste generated by the construction.
- 20% recycled content by value to be used in the construction of the new facility (in excess of the percentage requirement set down for other building developments at the time of the drafting of the specification).
- Maximum use of sustainable materials and avoidance of products such as PVC.
- Provision of recycling facilities within the site and at ward level for staff and the public.
- Development of routes through the site for pedestrians and cyclists and provision of cycling facilities to encourage the shift away from car use.

8.4 Competitive Dialogue

The Trust has procured the scheme using the competitive dialogue process.

The key differentiators of this process over the previous negotiated PFI process are:

- More certainty at the preferred bidder stage with regard to the deal.
- Development of a more complete solution with a detailed hospital design with a fixed price prior to preferred bidder.
- ABC approval prior to selection of a preferred bidder. This will force clarity over the financial deal.

To respond to these issues generated by the competitive dialogue procedure, the Trust developed a strategy that has included the following:

- Preparation of legal documentation in advance of OJEU to crystallise the Trust's commercial position. This involved the production of a project specific Project Agreement. The Project Agreement includes bespoke drafting in respect of phasing, equipment, retail income, energy and Historic Buildings retained as part of the solution.
- Detailed design specifications as part of the ITPD, including a number of specified standard rooms, complete with output specifications such as engineering loading and environmental conditions.
- An open process with the bidders that allowed for weekly meetings between each bid team and the Trust.
- The mandatory requirement for a funding competition to be held at the preferred bidder stage in accordance with the new central requirements.
- A 3:2:1 process with the Trust selecting from three bidders to two bidders, to one preferred bidder.

This strategy has relied on the Trust having a high degree of clarity of its requirements, together with a robust core Project Team that has steered the procurement and ensured the achievement of wide user consultation. The Project Team has been informed by a central group of clinical and service champions led by the Trust Medical Director. The principles of this process included:

- A central brief from the clinical champions signed off in advance and owned by the Project Team.
- A generic design brief that treats inpatient/outpatient/core clinical areas as zones with ownership of these zones by key Trust personnel.

The key milestones governing the project from the pre-qualification stage to financial close are set out in the table below:

Table 8.4.i Programme

Part	Task	Milestone
Part 0	**Trust preparation of documentation**	July 07
Part 1	**Pre-Qualification**	
	Pre-qualification: select three bidders	July 07
Part 2	**Opening of Competitive Dialogue with 3 bidders & issue of ITPD**	
	Opening of Competitive Dialogue and issue of ITPD	Aug 07
	First bidder meetings	Aug 07
	Appoint funders' due diligence advisors	Sept 07
	Commission Stage 1 due diligence report on Project	Nov 07
Part 3	**Interim Submission & selection of 2 bidders to continue dialogue**	
	Return of Interim Submission	Dec 07
	Evaluation and selection of solutions from two bidders	Jan 08
Part 4	**Scheme development and further dialogue**	
	Continued dialogue with two bidders	Jan 08
	Amendments to commercial redrafting issued to bidders	Feb 08
Part 5	**Draft bids and conclusion of dialogue**	
	Submission of draft bids and further dialogue.	Jun/Jul 08

Part	Task	Milestone
	Commission "fly over" review on draft bids	Jan 09
	Conclusion of dialogue	Feb 09
Part 6	**Final bids**	
	Trust issues Invitation to Submit Final Bids (ISFB)	Feb 09
	Submission of final bids	Feb 09
Part 7	**Evaluation and selection of a preferred bidder**	
	Evaluation and selection of preferred bidder the Trust is minded to appoint	Feb 09
	Advise provisional preferred bidder the Trust is minded to appoint	Mar 09
	Commission Stage 2 due diligence report on the provisional preferred bid	Mar 09
	SHA approve Appointments Business case (ABC)	April 09
	DH approve ABC, appointment of preferred bidder and preferred bidder letter issued	June 09
Part 8	**Final design, planning consent, funding competition - Fin Close**	
	Close of final design issues	June 09
	Preferred bidder submits final designs for planning	July 09
	Full planning consent obtained	Oct /Nov 09
	Confirmatory Business Case (CBC) submitted	Nov 09
	CBC approved	Nov 09-Jan 10
	Funding competition commenced	Nov 09
	Trust approves selection of winning funder	Dec 09
	Novate funding advisors' appointments to the selected funder	Dec 09
	Financial Close achieved	Feb 10

8.5 Funding Competition

The project will be subject to a funding competition at the preferred bidder stage in accordance with the new central requirements. In the Invitation to Participate in Dialogue (ITPD) the Trust will supply terms on which all bidders should base their response (an indicative term sheet). Bidders will however be required to tender certain commercial aspects related to financing such as contractor support packages.

Bidders will not therefore be required to seek full funder support for their bids prior to the preferred bidder stage competition. Post selection of Preferred Bidder the indicative term sheet will fall away and the funding will be competed for the agreed contract on the basis of the contractor support package.

To prepare for the funding competition, the Trust has acted as trustee on the appointment of funder's advisors. These advisors have reviewed the overall project scope and instructions to test for Vfm/funder acceptability. This stage confirmed there were no issues contained in either of the two bids that might cause funding problems.

The Trust and its advisors have assessed potential main concerns during the procurement and evaluation process to mitigate the risk of major points surfacing at this point.

Subject to there being no major issues arising out of this process, the funders' advisors report will be finalised and the advisors will be novated to the successful bidder.

9. SELECTION OF PREFERRED BIDDER

9.1 Interim Evaluation

Evaluation of interim bid submissions took place over Christmas 2007. The interim bids were submitted on 14 December 2007. The outcome of the evaluation of the interim submission resulted in the selection of solutions from Carillion and Skanska in January 2008, with whom the Trust continued dialogue. Catalyst decided not to submit an interim bid. Despite the absence of a third bid, the Trust continued to employ its evaluation strategy to ensure a robust methodology was applied which could be built upon for the final bid submissions. It also provided essential feedback to bidders regarding their schemes. The evaluation was based on the interim bid submissions including progress made to date and an assessment of how likely it is that a proposal would convert into a high quality solution that would be affordable and capable of meeting all of the Trust's requirements.

The interim bid evaluation comprised a number of stages including:

- Compliance checks for overall response to the deliverables
- Evaluation and scoring of bids
- Financial analysis
- Value for money assessment

9.2 Selection of Preferred Bidder

The final bid evaluation included the following stages:

Compliance checks: the bids were initially vetted to ensure they passed the Trust's compliance checks including:

- Staying underneath affordability ceilings
- Meeting requirements of Town Planners
- Complying with DH and Trust's commercial and legal proposals.

Both bids passed these compliance hurdles and were then subjected to the scoring process.

Evaluation Scores:

Key Evaluation Criterion	Deliverables to be evaluated	Weight (%)	Carillion	Skanska
DESIGN AND CONSTRUCTION				
Character and innovation				
Character	D1: D1.1f-D1.4f	3	2.3	2.5
Innovation	D1: D1.5f-D1.6f	3	2.3	2.4
Form and materials				
Form	D2: D2.1f-D2.4f	3	2.5	2.6
Materials	D2: D2.5f-D2.8f	6	5.1	4.8
Staff and patient environment	D3: D3.1f-D3.7f	9	7.1	7.5
Urban and social integration	D4: D4.1f-D4.8f	6	4.6	4.6
Performance	D5: D5.1f-D5.4f	6	4.6	4.5
Engineering	D6: D6.1f-D6.11f	3	2.3	2.0
Construction	D7: D7.1f-D7.10f	3	2.2	2.0
Use	D8: D8.1f-D8.15f	25	18.4	20.5
Access	D9: D9.1f-D9.6f	6	4.6	5.0
Space	D10: D10.1f-D10.3f	1	0.7	0.8
Sub-total			**56.7**	**59.3**
DELIVERABILITY AND APPROACH				
Commercial and legal				
PA and Schedules	C1f-C4f, C9f	2	1.3	1.2
Deferred investigations	C5f-C6f	1	0.7	0.6
Subcontracts/consortium arrangements	C7f-C8f	1	0.8	0.8
Equipping & Commissioning	E1.1f-E3.3f	1.5	1.0	0.8
IT	E4.1f-E4.5f	1.5	1.2	1.3
Financial	F1f, F2f, F3f, F4f,F5f	4	2.7	2.6
Project management	P1f-P4f	5	4.2	3.8
Sub-total			**11.9**	**10.9**
HARD FM SERVICES				
Approach to management of services & staffing	FM1.1f-FM1.10f	2	1.6	1.4
Approach to stat. compliance, QA & monitoring	FM2.1f-FM2.6f	2	1.8	1.6
Method statements	FM3.1f	6	5.0	5.0
Sub-total			**8.3**	**8.0**
TOTAL		**100**	**76.9**	**78.1**

Value for Money: The net present cost of the Skanska scheme based on discounted cash flows from 2008/9 to 2045/46 is **[REDACTED]** higher for Skanska than Carillion. This analysis is shown in the financial appendices 10.xv and 10.v.

Given the 1.4% differential in benefit points between Skanska and Carillion, the net present cost per benefit point is 5.2% greater for Skanska than Carillion as illustrated in the following table:

Table 9.2.ii Economic appraisal

Economic appraisal	Carillion £m	Skanska £m	Differential Skanska to Carillion £m	Differential Skanska to Carillion %
NPV-costs/savings attributable to the scheme 2008/9 to 2045/46	[redacted]		21.7	6.7%
Non financial benefit points score	77.3	78.4	1.1	1.4%
Cost per benefit point	**4.21**	**4.43**	**0.22**	**5.2%**

Thus Carillion can be judged to offer better value for money see Appendix 10.xv.

An added consideration is that the costs of the defined area of potential scheme expansion vary significantly between Skanska and Carillion, with the Skanska costs being **[REDACTED]%** higher for an additional 192 beds and over **[REDACTED]%** higher for incorporating Women's Services as illustrated in the following table

Table 9.2.iii Bidder prices for potential scheme expansion

[REDACTED]

10. RISK MANAGEMENT

There are a number of critical risks that have been identified during the course of development of the ABC. The Trusts have developed a risk management strategy that analyses key risks and proposes strategies to mitigate these risks. The key elements of this risk management strategy are shown in the following table:

Table 10.i Risk management

RISK	RISK IMPACT	MITIGATION
Over-estimate of growth or under-estimation of length of stay improvements	Over-sizing	Retained bed buffer
		Adjust rehab boundary with Frenchay
		Potential BGSP2 outcomes
		Temporary moth-balling
Under-estimate of growth or over-estimated of length of stay improvements	Under-sizing	Clinical Redesign Programme
		Early wins
		Retain more beds in short term
		Outline planning for a larger building
		Large site able to accommodate more if required
Change in specialty mix/Darzi	Wrong configuration	Generic zone not bespoke clinical village
		90% generic rooms-unprecedented!
UP above expectations due to higher cost of funding or balance sheet treatment	Increased annual cost of scheme	Scheme held at low ratio
		ABC models downside scenarios
		Potential to increase savings
Synergy and performance savings not achieved	Increased annual cost of scheme	Savings targets held at OBC level
		Work started already, strong opportunities

The most singular aspect of the scheme is the standardised room approach that puts 95% of the hospital in standard room types that can change purpose, e.g. a large high-tech room that could be a theatre, catheter laboratory or an interventional imaging room. This allows change of use and function over time and mitigates the risks around change in specification or service configuration over time.

11. PROJECT STRUCTURE

11.1 Selection of Preferred Bidder

The management of the procurement process will be undertaken by the Project Team which is accountable to the Project Board. The Project Board reports to the Trust Board.

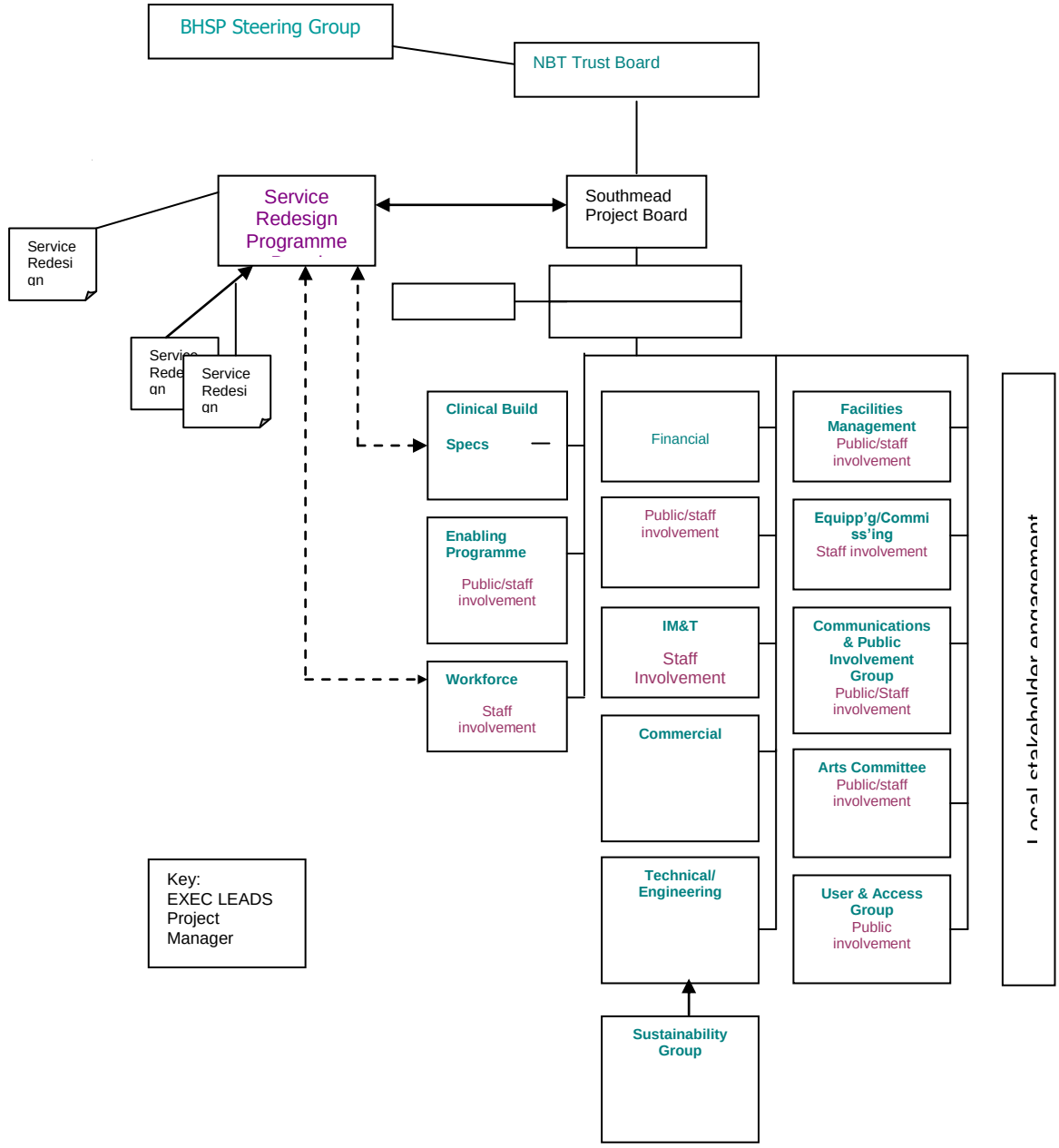
The key roles and responsibilities for the Project are set out as follows:

Table 11.1.i Key roles

Project/Programme Sponsor (SRO)	[Redacted], Chief Executive, NBT
Project Director	[Redacted], Director of Projects, NBT
Design Champion	[Redacted], Chief Executive, NBT
Project Managers	[Redacted], NBT: Southmead Acute Hospital [Redacted], BPCT: Southmead Community Hospital

The organisational structure for the Project is set out below:

Table 11.1ii Organisational structure **[NAMES REDACTED]**



11.2 Advisors to the Project

The following advisors have been appointed to support the Project:

Table 11.2.i Project Advisors

TA/Building/Engineering	[REDACTED]/Hulley & Kirkwood
Architect	NBBJ
FM advisor	Tribal Secta
Legal	Bevan Brittan
Financial	Royal Bank of Canada
Insurance	AON Insurance
Tax & Accounting	KPMG

11.3 Patient and Public Involvement

The Trust is committed to active public and patient involvement in the project and has established a process for ensuring the engagement of stakeholders in the wider decision making process. A Patient Involvement Group (PIG) helped inform the development of the PSC, providing advice and comment to the Project Board. A new structure for involvement has been established using 'virtual' networks and workshop events. A strong communications strategy has also been developed for the Project which includes interaction and communication with the public through the arrangement of external events and presentations.

12. CONCLUSION

The Trust has procured an affordable and value for money scheme from Carillion, using the PFI competition.

The Trust is clear that there is a very strong case for change underpinning these proposals, and that the developments outlined are both affordable and achievable.

The detailed work which has been undertaken on activity, income and affordability shows that the developments are affordable; the financial risks have been calculated, including the potential impact of Payment by Results, and it has been shown that plans are in place to mitigate these risks.

The key strengths of this business case are:

- The opportunity to house a new clinical model delivering radical improvements to health services with strong support from all the partner organisations and stakeholders.

- The rationalisation of acute services from two sites to one site providing the opportunity to sustain services both financially and clinically and to fund critically needed improvements to the Estate.

- The retained financial flexibility inherent in the proposal due to the relatively small size of the capital investment and PFI unitary payment compared to the total turnover of the Trust.

- The development of this scheme within the BHSP. This provides an agreed strategic, affordability and capacity framework across the whole of Bristol, North Somerset and South Gloucestershire.

- The concentration of the scheme on core acute and specialist functions and the exclusion from the scope of the PFI of the potentially contestable services. This leads to certainty over the scope of the scheme and insurance against expensive scope change during the PFI procurement process.

- The extensive consultation exercise and the support for the decision-making process from the Secretary of State.

- The natural flexibility of the Southmead site and the future-proofing built into the PFI design specification.

- The in-built phasing of the BHSP schemes with the opportunity to assess capacity and scope as the whole BHSP programme unfolds.

SECTION 1: INTRODUCTION

1.1 PURPOSE OF THE APPOINTMENT BUSINESS CASE

Following a PFI competition, this Appointment Business Case sets out North Bristol NHS Trust's intention to appoint a bidder-Carillion to build and maintain a new 800 bed hospital on the Southmead site. The hospital is 110,000sqm and has an out-turn capital value of £430m.

The aim is to open these facilities in 2013.

This hospital is the main element in the rationalisation of acute services at Southmead and Frenchay hospitals on to a single acute site at Southmead. This development is a component part of the Bristol Health Service Plan (BHSP) that aims to modernise health services and hospital facilities in Bristol, North Somerset and South Gloucestershire. It follows on from a major public consultation and an Outline Business Case (OBC), which was prepared by North Bristol NHS Trust, NHS South Gloucestershire and NHS Bristol and was approved by the Department of Health in February 2007.

The main objectives of the investment are to:

- Concentrate acute and specialist services on a single site and improve the safety and sustainability of care.
- Provide improved access to services by increasing the range of community based services across North Bristol and South Gloucestershire.
- Improve the efficiency and effectiveness of services by harmonising primary care, social care and local hospital services.
- Improve the very poor patient environment and working conditions in the old hospitals and provide buildings fit for purpose.
- Contribute to the wider objective of neighbourhood renewal and regeneration.

The ABC has been developed by North Bristol NHS Trust and approved by the Trust Board along with the selection of Carillion as the Bidder it is minded to appoint.

1.2 STRUCTURE OF THIS BUSINESS CASE

The document has been structured into four key parts:

SECTION ONE: BACKGROUND AND CONTEXT

- Introduction
- Strategic Context
- Stakeholder & Community Involvement
- Model of Healthcare Provision
- Activity and Capacity

PART TWO: BIDDER SELECTION

- Option Appraisal and Bidder Selection
- Key Deliverables
- Enabling Strategy

PART THREE: PREFERRED SOLUTION AND PREFERRED BIDDER

- Preferred Bidder/Preferred Solution
- Commercial Issues
- Financial Affordability
- Workforce

SECTION FOUR: PROJECT MANAGEMENT

- Programme Management & Timetable
- Working towards Financial Close
- Risk Management Strategy
- Post Project Evaluation

1.3 BACKGROUND

In April 2004, North Bristol NHS Trust, Bristol North Primary Care Trust and South Gloucestershire Primary Care Trust submitted a Strategic Outline Case (SOC) to the Avon, Gloucestershire and Wiltshire Strategic Health Authority. This SOC was subsequently approved by the Secretary of State in July 2004.

In March 2005, following a detailed process of public consultation, a forum comprising organizations within the Bristol Health Services Plan made a number of decisions. These included the decision that the main acute hospital for North Bristol and South Gloucestershire would be based at the Southmead Hospital site, (with community facilities provided on both the Frenchay and Southmead Hospital sites).

The Outline Business Case (OBC) for the redevelopment of Southmead and Frenchay Hospitals was approved by Avon, Gloucestershire and Wiltshire Health Authority in February 2006. This decision was reconfirmed by the South West Strategic Health Authority in September 2006 and the case was approved by the Department of Health in March 2007.

In May 2007, the Trust advertised the Southmead scheme as a Private Finance Initiative in the Official Journal of the European Union (OJEU) and as a result three bidders were selected to proceed to competitive dialogue with the Trust: Carillion, Catalyst and Skanska.

The process of competitive dialogue commenced in August 2007 and following an interim evaluation in December 2007, Carillion and Skanska were short-listed to proceed to the final stage of competition culminating in final bids in February 2009.

Following approval of the ABC, a preferred bidder will be selected to develop the hospital with the intention of signing a contract in February 2010 and opening the new hospital in 2013/14.

1.4 PROJECT OBJECTIVES AND GOALS

The project objectives as developed in the OBC are set out in 1.1 above. As part of the development of the scheme's procurement documentation, a further set of design goals were set out as shown below:

- **Innovation in Patient Care:** The new hospital should apply radical, cutting edge design to provide a state-of-the–art hospital environment geared for top performance in patient care.

- **Flexibility:** The environment should be extremely flexible to respond to changes in the way healthcare is provided. The Trust is determined to create an environment that can constantly evolve and adapt. Standardisation will contribute to this goal.

- **Clear, Welcoming Urban Site:** The hospital site should be welcoming and logically laid-out, to the best principles of urban design and landscape design. Facilities and spaces should create an environment which uplifts and is consistent with, and blends with, the external environment.

- **Connecting the Inside to the Outside**: The inside of the hospital should be connected to, and in harmony with, the outside. This will be achieved by the use of landscaped courtyards, sympathetic glazing, open and interesting circulation, and non institutional patient and staff areas.

- **Excellent Finishes:** The hospital finishes should be intelligently planned and executed, avoid institutional blandness, be exemplary in terms of use of materials and workmanship and significantly above the normal hospital standard.

- **Sustainable Development:** The facilities should achieve the highest standards of energy efficiency and a minimal carbon output. Maximum use should be made of sustainable practices during construction and work to minimise the operational carbon footprint. They should take maximum account of, anticipate and allow for future changes in 'green technologies' and environmental legislation.

These objectives and goals have underpinned the process of competitive dialogue between the Trust and bidders and have formed the basis of the evaluation and selection of the preferred bidder.

1.5 RECONCILLIATION WITH THE OBC

1.5.1 Scope

The scope of the scheme has been re-assessed and tweaked to address any new issues or changes in circumstance. In general, the impact of these scope changes have been minimal and have not resulted in wholesale updates to the Public Sector Comparator. The overall scope has remained the same in terms of:

- The range and type of service to be provided.
- Assumptions concerning other providers in the locality including the ISTC.

The reason that these changes have been minor is that:

- The OBC was approved fairly recently (it is only 21 months old).
- It was able to accommodate the implications of a new Independent Sector Treatment Centre (ISTC) at Emerson's Green before it was finally approved last year.
- The capacity of the community schemes in Bristol was identified as part of the BHSP framework in 2005.

The option appraisal in the OBC originally included costs associated with the development of a community hospital on the Frenchay site, either as new build or refurbishment. The OBC confirmed that the Trust would progress with the procurement of an acute and community hospital on the Southmead site, but that a separate OBC would be developed to take the Frenchay community scheme forward. This ABC does not therefore include any costs or analyses associated with the Frenchay community hospital business case. This project is being project managed by NHS South Gloucestershire who will submit a business case to the Strategic Health Authority in due course.

1.5.2 Activity

Capacity modelling has been carried through from now into the operational phase of the new hospital. This capacity analysis has modelled activity against national norms and related the results to new SHA targets and ambitions.

The only changes from OBC to ABC have related to a tightening of performance parameters to reduce capacity with a smaller offset from an increase in growth assumptions by the Office of National Statistics. These changes are examined later in the case but a summary of these changes is shown in the following tables:

Type of bed	OBC	ABC	Change
Acute beds PFI	802	768	-34
Acute beds in retained accommodation	145	97	-48
Sub-total Acute	947	865	-82
Southmead Community Hospital	28	32	4

This table shows an overall reduction of 30 beds in the PFI development as a consequence of the revised assumptions. In addition there has been a general reduction in capacity in other areas of the hospital to reflect an increase in throughput assumptions as shown below:

Type of room	Current	OBC	ABC
Theatres	32	26	24
Endoscopy rooms	4	4	4
Recovery & day-case trolleys	117	101	83
MR rooms	3	7	4
CT rooms	3	5	4
Ultrasound rooms	12	6	6
Plain film rooms	19	12	10
Other radiology rooms	13	13	14
Outpatient clusters	30	16	12 +2R&D=14

These changes were used to recalculate a PSC capital value of £470m. The changes were accommodated in the Public Sector Comparator and brief that was approved by the Trust Board and issued to the Bidders.

1.5.3 Finance

Since the OBC, all the financial assumptions in the case have been updated to reflect changes in the financial context and the greater clarity on costs further down the process. The main differential in the ABC is the reduced unitary payment from the OBC:

- Unitary Payment in OBC £39.20m
- Unitary Payment in ABC £34.50m
- Unitary Payment in ABC with maximum risk adjustment £37.60m

The principal reason for the reduction in the Unitary Payment is the fact that the financial planning ceilings have been controlled at the same level throughout the procurement to date whilst the risk allowances have been managed out as the design becomes more developed. This has been assisted by the competitive tension of the dialogue process. In addition, the OBC was modelled as a bank deal as opposed to a more favourable bond and this prudent approach has proved to be a wise decision with the impact of the current credit squeeze on bond financed deals.

1.6 APPROVALS PROCESS

The NHS commissioners with a material interest in the scheme are:

- NHS Bristol
- NHS South Gloucestershire
- NHS North Somerset
- Bristol Health Services Plan Programme Board
- NHS South West

These commissioners have provided written support for:

- Strategic fit and service models, including care pathways.
- Activity projections.
- Financial impact.

The ABC is now submitted for approval by the Department of Health and HM Treasury.

Following approval, the Trust will proceed to work with the preferred bidder to complete the final elements of the procurement process including final design, planning approval, funding competition and financial close. It is intended that the new facilities will be operational in 2013/14.

1.7 RELATIONSHIP WITH OTHER CAPITAL CASES

This ABC fits within the wider context of capital investment in Bristol, North Somerset and South Gloucestershire. These investments are governed by an overall framework provided by the Bristol Health Services Plan (BHSP) and include:

- Development of primary care infrastructure and a network of community hospitals and community health care centres.
- Modernisation of acute hospital services across the BNSSG area including the re-provision of the old hospital facilities at the BRI.
- Centralisation and enhancement of specialist and support services including children's services, ENT/OMF, breast services and cardiac services.

1.8 PROGRAMME STRUCTURE

The Southmead Hospital Redevelopment project has proceeded under the umbrella of the Bristol Health Services Plan. This provides a covering framework to ensure consistency of strategic, activity and financial plans across the local providers within Bristol, North Somerset and South Gloucestershire.

2. STRATEGIC CONTEXT

2.1 INTRODUCTION

This section addresses the strategic context for the redevelopment of Southmead Hospital including:

- National policy, and healthcare trends.
- Local strategy for healthcare across Bristol, South Gloucestershire and North Somerset and the Bristol Health Services Plan.

This section also describes the involvement, consultation, scrutiny and decision making process leading to the development of the Outline Business Case.

2.2 NATIONAL POLICY CONTEXT AND HEALTHCARE TRENDS

The proposals within this case have been developed in response to both national and local imperatives.

From a national perspective, the NHS White Paper 'Our Health, Our Care, Our Say; A New Direction for Community Services', gives the main context for the scheme. This document sets out the government's vision for more effective health and care services outside of hospitals, extending the range of local, community based secondary care services.

The principal issue addressed by the Southmead redevelopment is the concentration of acute services at Southmead and the re-distribution of secondary care services into a community network (between 30% and 60% of the different types of ambulatory care are transferred out of the acute setting).

National policy has now been further developed with the Darzi Review – 'Our NHS, Our Future'. The Darzi Review has been committed to five key themes; access, personalised services, safe services, outcomes and local accountability. In the Interim Review Report in May 2008, five pledges were made to delivering the most effective change possible:

- Change will always be to the benefit of patients.
- Change will be clinically driven.
- All change will be locally-led.
- Patient, carers and the public will be involved.
- The difference will be seen first.

The BHSP and the Southmead development are consistent with the Darzi review and have been pursued with the above five principles in mind. The OBC describes the consultation processes adopted and explains the rationale for the development in some detail.

The Darzi Review concentrated on nine areas of care, five of which are directly affected by the BHSP and the Southmead development as shown in the following table:

Area	Impact	Rationale
Staying healthy	Y	Redirection of investment to prevention
Maternity and newborn care	N	
Children and young people	Y	Centralisation of acute services at the BRI
Long-term conditions	Y	New clinical pathways
Mental health	N	
Learning disability	N	
Planned care	Y	New clinical pathways
Acute care	Y	New clinical pathways
End of life care	N	

More details of the approach summarised in this table can be found in the BHSP documentation and the Southmead OBC.

Detailed strategic proposals and targets related to these nine areas of care are set out in the South West Strategic Health Authority's 'Strategic Framework for Improving Health in the South West 2008/2009 to 2010/2011'. The priorities set out in this framework are:

- Reduce health inequalities across populations and communities.
- Enhance prevention to support individuals in keeping well, avoiding illness.
- Improve the speed and convenience of access to diagnosis and treatment.
- Maximise independent living for people with long-term health or disabling conditions.
- Avoid needless urgent and emergency admissions to hospital.
- Ensure a rapid response in an emergency or where urgent care is required.
- Remove needless delay from stays in hospital.
- Maximise the return to independence after a hospital stay.
- Ensure dignity at the end of life.

The OBC/ABC objectives have been reviewed and the consequences been reappraised in line with the ambitions in this SHA strategic framework. An analysis of the ABC targets matched against the SHA framework is shown in the following table:

Area	SHA Ambition	ABC response
Long term conditions	Reduce emergency bed days for people with long-term conditions by 30%	Emergency bed length of stay target tightened to 35% reduction
Planned care	75% of the 160 procedures identified by the British Association of Day Surgery will be carried out as a day case	Day case target of 75%
	At least 50% of outpatient appointments to take place in a local setting	30-59% transfers by type
	90% of admitted patients and 95% of non-admitted patients to be treated within eight weeks by 31 March 2011	No-wait strategy

	90% of diagnostic tests are carried out and the results available to the referrer within two weeks by 31 March 2011	No-wait strategy
Acute care	Accident and emergency attendances at acute hospitals will reduce by 10% per annum over five years	56% transfer of ED attendances
	95% of acute medical patients will have an assessment by an acute physician consultant within four hours of admission	100% acute medical patients assessed within 4hours in integrated acute front-end model
	90% of stroke patients will spend 90% of their time in hospital in an acute specialist multi-disciplinary stroke unit	100% acute stroke patients will be in dedicated service whilst in the Southmead Hospital
	The length of stay for acute medical care will be in the best quartile for England by 31 March 2011	Acute medical LoS will have top quartile performance
Resources	Improve the productivity of clinical activity by at least £700 million per annum by 31 March 2014	Overall productivity gains will be 25%
Improving clinical quality and user experience	30% reduction in clostridium difficile in hospitals from 2007/08 to 2008/09 Eliminate mixed-sex accommodation by 31 March 2009	Single room strategy will target 50% reduction in CD and zero mixed sex accommodation
Investing in Facilities	Reduce primary energy consumption by 15% or 0.15 million tonnes carbon from 31 March 2000 levels Achieve energy levels of 35-55 gigajoules per 100 cubic metres for new developments	Energy consumption will be reduced by over 40% to 40Gj per $100m^3$

This analysis demonstrates how the ambitions for the SHA are reflected in the Southmead scheme, and how the execution of these proposals would lead to delivery of the SHA ambitions. The targets in the ABC tend towards the ambitious end of the framework and this emphasises the need for a coherent clinical strategy and change programme.

Further national policy and trends in health care provision most relevant to this business case are:

Plurality and Choice: Patients are being offered more choice as to where they receive their treatment. The Choice initiative is now being extended to offer even more options to more patients ('Creating a Patient-Led NHS', Department of Health March 2005). New independent sector providers are being introduced to the healthcare market to facilitate wider choices and Primary Care Trusts are obliged to purchase services from a range of providers including those in the independent sector.

As a result, NHS Trusts face greater competition in retaining their current activity and income streams, whilst at the same time having the opportunity to win more work from other providers should patients choose to move. There is also a substantial incentive for Trusts to improve their processes and efficiency to enable them to retain or increase workload and income.

In developing the demand plan for the ABC, the impact of the more competitive market, choice and provider plurality on both activity volumes and case mix have been reflected in the activity projections.

Payment by Results: The NHS financial regime means that Trusts will only be paid for the work they do for an increasing range of activity, and will be paid for that activity at a national tariff, irrespective of the local cost of delivery. This means that there are very real financial consequences to changes in activity flows generated by choice and provider plurality. Furthermore, Trust operating costs need to be in line with, or below the national tariff to remain financially viable. The advantage of the new system is that there is financial incentive for Trusts that are able to deliver services at more efficient rates and this is a real stimulus for change.

Practice Based Commissioning: Commissioning of services is being devolved to groups of GPs with indicative commissioning budgets allocated to GP practices. This will provide practices with an incentive to manage referrals and will require a new level of dialogue between primary care commissioners and hospital services.

Access: Shortening waiting times at all levels across the health service continues to be a core improvement goal and key targets include:

- Waiting lists will be abolished with patients able to book a convenient time for their appointment or treatment at the time of referral. Trusts will need clear and streamlined referral processes backed up by information technology and communications systems to deliver against this national objective.

- Minimising the number of trips that a patient has to make to hospital by providing care on a one-stop basis, and providing as much care close to home as possible.

- The national drive to establish a number of locally based treatment centres providing diagnostics and minor surgery has been part of this strategy.

Improving the NHS Estate: There is recognition in the NHS Plan that the NHS estate needs to be modernised and there are a number of national estates-related targets designed to improve the healthcare estate, including:

- 40% of the total value of the NHS estate to be less than 15 years old by 2010.
- Establishment of additional hospital capacity to meet access and clinical priority targets.

- The NHS Plan stipulates that hospital environments should be upgraded to provide excellent environments for patients and staff.

2.3 THE BRISTOL HEALTH SERVICES PLAN

2.3.1 Introduction

This section describes the strategic planning context for the local health community of Bristol, North Somerset and South Gloucestershire (BNSSG). It defines the overall pattern of service provision within which the proposals set out in this ABC are being taken forward, and explains how the local NHS community is looking to respond to the national drivers for change.
The organisations around Bristol recognised sometime ago that a concerted programme of change was required to mobilise all the resources of local Trusts and to generate a single approach to the required modernisation of services.

To achieve this concerted approach the "Bristol Health Services Plan" (BHSP) was developed in 2003; all the local stakeholder organisations signed up to the proposals in the Plan and therefore it has provided a vehicle for positive change. Its key elements are described below.

2.3.2 Bristol Health Services Plan Strategic Approach

The BHSP builds on the original conclusions of the Avon Acute Services Strategic Framework (AASSF) started in 2000 and has two core strategies:

Strategy 1: Wherever possible, and clinically appropriate, care will be provided closer to people's homes, through the development of new facilities in the community, including a network of community hospitals.

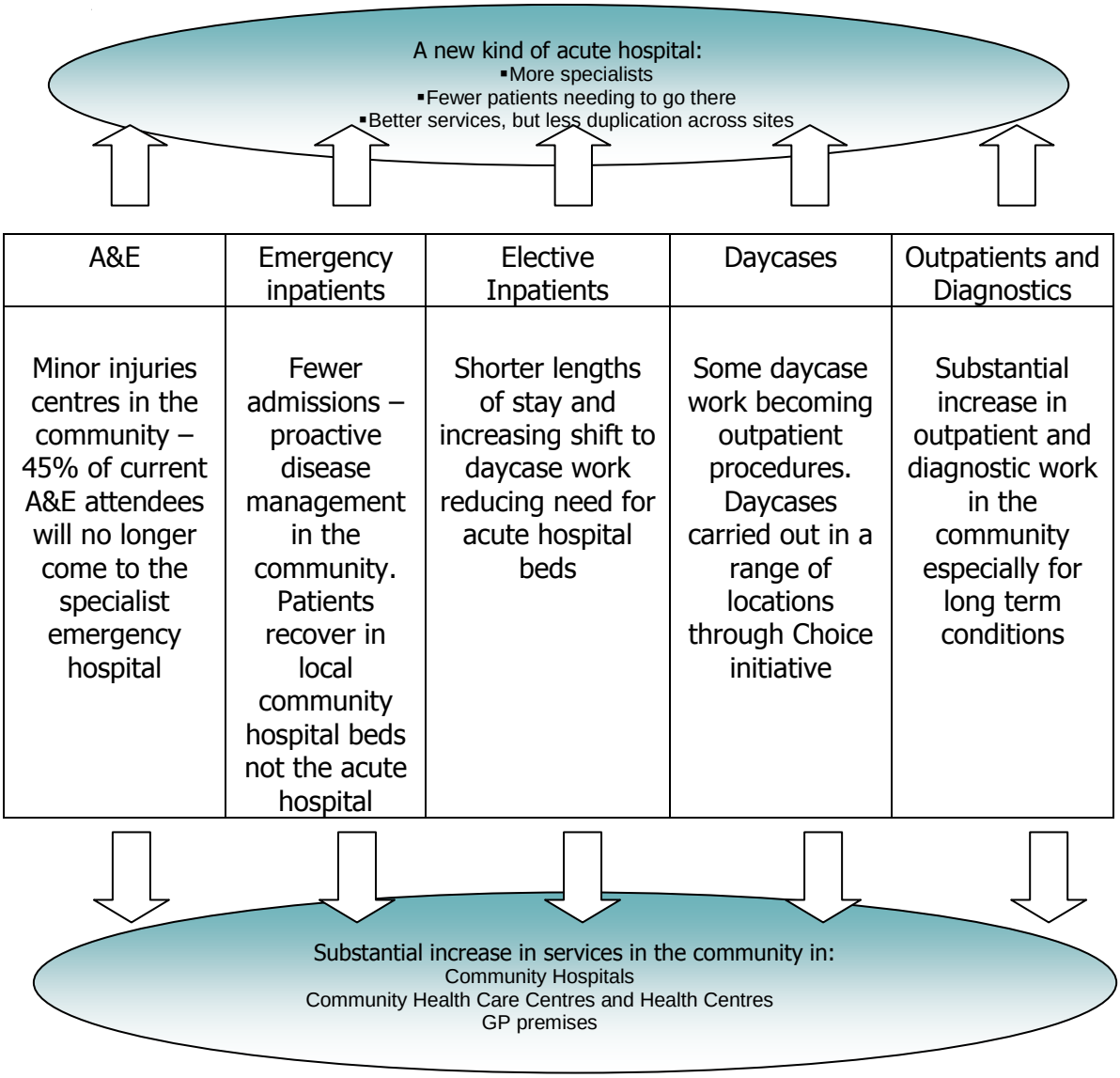
Strategy 2: The emergency and specialist hospital services provided to patients will be improved by concentrating specialised expertise and equipment together in centres of excellence.

In light of these two care strategies, the BHSP identifies the following key objectives for service redesign and the future service model across the area:

- Provide care closer to patients' homes, wherever this is possible and appropriate.
- Concentrate acute and specialist services on a single site and improve the safety and sustainability of care.
- Improve the efficiency and effectiveness of services by harmonising primary care, social care and hospital services.
- Improve the current poor patient environment and working conditions in the hospitals and provide buildings suitable for modern healthcare.
- Contribute to the wider objective of neighbourhood renewal and re-generation
- Provide a vibrant learning and research culture.

2.3.3 BHSP Vision

Guided by these principles, health organisations within the BNSSG area have developed a shared vision for services across BNSSG. This is illustrated below:



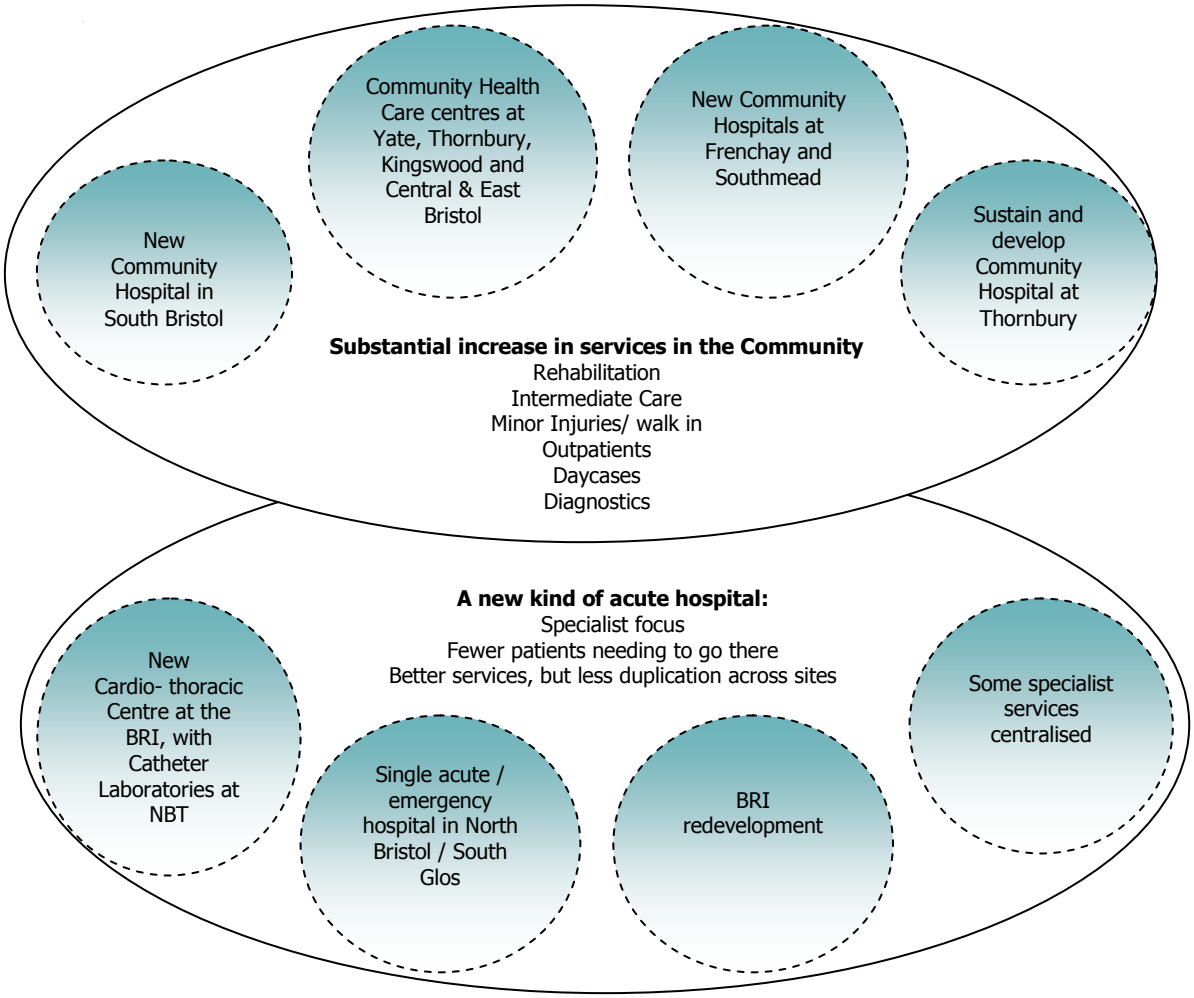
2.3.4 BHSP Model of Care

This vision has been turned into a model of care that covers six main areas:

- Public health.
- Self-care.
- Primary Healthcare.
- Community-based services.
- Acute, emergency and specialist services.
- Tertiary services.

2.3.5 BHSP Development Proposals

In response to the model of care, the BHSP has created a series of proposals for development and they are summarised in the following diagram:



The diagram illustrates a number of initiatives including:

- Enhanced primary care premises and facilities – e.g. development of Fishponds Primary Care Centre, and Shirehampton Primary Care Centre.
- Development of Community Health Care Centres at Yate, Kingswood and Central & East Bristol – providing a wide range of ambulatory, diagnostic, therapy and outpatient services.
- Development of Community Hospitals at South Bristol, Thornbury, Frenchay, and Southmead – providing inpatient care for people recovering from illness and a wide range of ambulatory, diagnostic, therapy and outpatient services.
- A single acute hospital for North Bristol and South Gloucestershire.
- Capital investment in the Bristol Royal Infirmary - to address the quality of buildings and the poor patient care environment.
- Centralisation of some specialist services – including an interim centralisation of accident & emergency services for major emergencies in North Bristol and South Gloucestershire at Frenchay until the single acute hospital for North Bristol and South Gloucestershire is developed.
- Centralisation of children's services at the Bristol Children's Hospital.

- Centralisation of adult Ear Nose and Throat (ENT) and Oral Maxillo-Facial (OMF) services within NBT.
- Transfer of in-patient breast services from Frenchay to UBHT.
- Centralisation of pan-Bristol pathology services.
- Transformation of adult cardiothoracic services – building a new, modern facility in the BRI precinct. Expanding capacity by providing two new cardiac catheter laboratories at North Bristol Trust.
- Modernisation of community hospital facilities at Clevedon and Weston.

A number of these schemes are now through business case approval and some either completed or are close to completion.

2.4 LOCAL CONTEXT AND CURRENT SERVICES

2.4.1 Introduction

This section describes the current services provided in the area. It also sets out a profile of the three key commissioning and providing organisations – North Bristol NHS Trust, NHS Bristol, NHS South Gloucestershire. For each of the two PCT areas information is also provided on:

- Population and demographics.
- A profile of the PCT as an organisation, including its facilities and workforce.
- A description of services that are provided across the area (mainly by the North Bristol Trust, but also to some extent by the PCTs).

2.4.2 Population and Demographics in North Bristol & South Gloucestershire

An analysis of the population of North Bristol and South Gloucestershire is shown in the following table:

Table 2.4.2: Population of North Bristol and South Gloucestershire

Description	NHS Bristol	% of total where applicable	% Change 2005 - 2030	NHS South Glos	% of total where applicable	% Change 2005-2030
Registered patients at September 2007	451,130			248,844		
Males	229,555	51%		126,699	51%	
Females	221,575	49%		122,145	49%	
Number of patients aged 65 and over	58,765	13%		36,774	15%	
Estimated population growth by 2026 (ONS revised 2004 population based projections)	58,647		13%	44, 000		18%

NHS Bristol includes the City of Bristol, from Avonmouth in the west to St George in the east, and Southmead in the north to Whitchurch in the south. There is a registered population of around 451,130. The 2004 census showed that 9.8% of the population are from black or minority ethnic groups. This compares with an English average of 10.4%. Although there are many affluent areas, 14% of the population lives in wards that rank within the most deprived 10% of wards in England. In terms of health deprivation 15 areas (roughly 6% of the population) fall within the worst 10% in the country, with one area of Lawrence Hill falling in the worst 1% of the country.

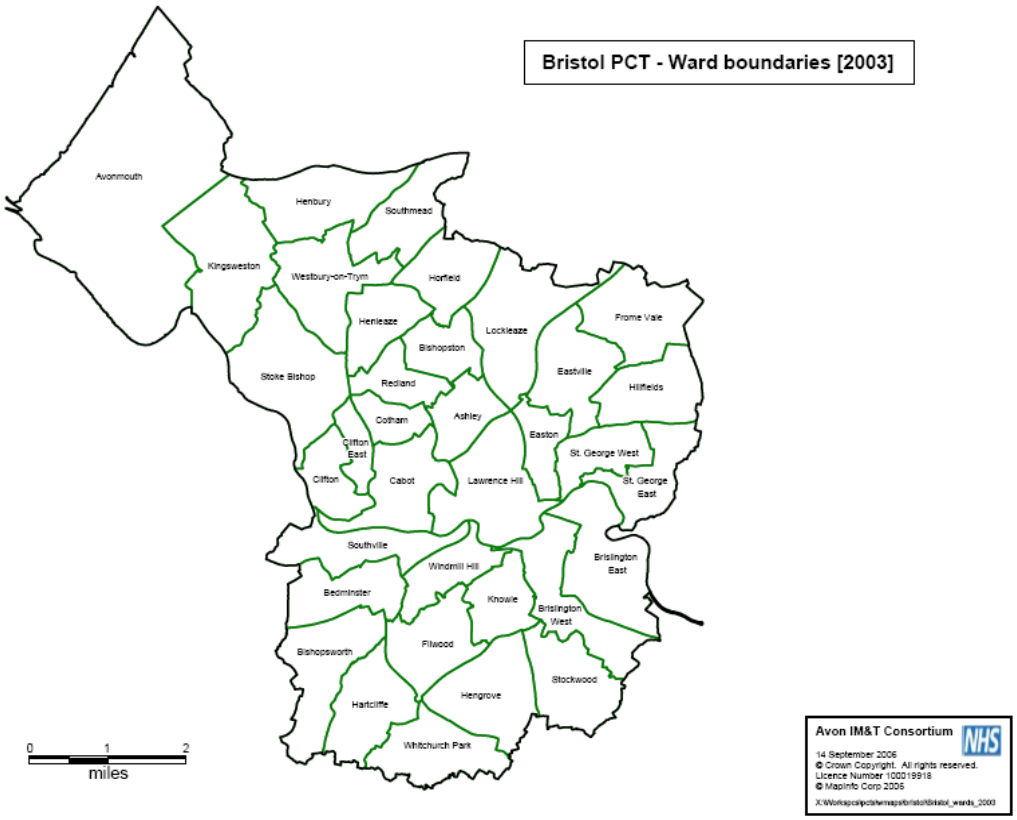
The registered population of South Gloucestershire is around 249,000 people. South Gloucestershire is one of the fastest growing Unitary Authorities in the South West. Around half of the population lives in urban communities such as Kingswood, Filton, Patchway, Bradley Stoke and Hanham. Just fewer than 20% live in the market towns of Yate, Chipping Sodbury and Thornbury. There is a small but growing black and minority ethnic population that makes up 2.5% of the population. The average age is slightly lower than the average in England and Wales with more 30-59 year olds and slightly more under 16 year olds. The proportion of elderly is estimated to rise steeply over the coming years.

2.4.3 NHS Bristol

2.4.3.1 Introduction

NHS Bristol (formally Bristol PCT) was established in October 2006 and has taken over the functions and responsibility from two former PCTs, namely Bristol North and Bristol South and West PCTs. NHS Bristol commissioned £153 million of primary medical care services on behalf of its population for the year ending 31st March 2007 and employed 1,320 staff.

The outline map highlights the ward boundaries of the PCT:



NHS Bristol manages and coordinates its planning and service provision around six Practice Based Consortia.

2.4.3.2 Strategic Direction

NHS Bristol strategies take account of the national strategic context outlined in this business case. The key strategic themes supported by these plans include:

- Extending the range of services delivered across primary care to provide real choice of alternatives to secondary care intervention wherever possible.
- Managing demand and activity wherever possible in primary care.
- Fully integrated services that operate across the primary and secondary care interface to support admissions avoidance and community discharge support.
- A common proactive programme of care management for chronic diseases.
- Changing practitioner roles and extending skills.
- Improved access to a range of diagnostic services.
- Creating a financially stable healthcare system.
- Increasing the role of the independent sector in delivering services.
- Ensuring that good quality buildings are available to support a greater role for primary and community care.
- Supporting the objectives of local practice based consortia.

2.4.3.3 Financial Context

The table below outlines how the £610 million NHS Bristol budget was spent during 2007/ 2008:

Table: 2.4.3.3: Financial Spend – NHS Bristol

	£'millions	%
Acute Hospital	288	47
Primary Care	85	14
Mental Health	58	10
Prescribing	52	8
Community Services	28	5
Continuing Health Care	22	4
Learning Difficulties	18	3
Other Commissioning	18	3
Ambulance	10	2
Management	14	2
Intermediate Care	8	1
Drugs and Alcohol Abuse	6	1
Public Health	3	1
	610	**100**

Source: NHS Bristol

The audited accounts for 2006-07 show that NHS Bristol ended the year with a small surplus.

2.4.3.4 Primary Care

There are 57 general medical/ personal medical services practices operating within the NHS Bristol boundary with an average list size of around 7,907 (UK average of around 6,000 patients). There are around 276 WTE GP principals or salaried GPs employed by practices with 246 GPs registered on the NHS Bristol Performers list. A typical practice will also employ around 20 staff including nurses, management, administrative and other support staff. This equates to around 1140 individuals across the PCT. NHS Bristol uses a range of premises to provide and commission primary care services.

2.4.3.5 Workforce

NHS Bristol directly employs around 1613 whole time equivalent staff (as at 31/12/07), including salaried GPs, GPs with special interests, nurses with special interests, health visitors, community nurses, podiatrists, some prison health care staff, senior managers, and administrative staff.

2.4.3.6 Hospital Activity

Table 2.4.3.6 below highlights key activity and income for NHS Bristol for the year 2007/2008. It highlights that most of the activity is provided by the two local hospitals for the registered population including their actual income in the year 2007/08.

Table: 2.4.3.6.i – NHS Bristol activity 2007/08

Description	Total Number	NBT Totals	UHB Totals
New outpatients	123,057	39,141	83,916
Follow up outpatients	261,295	90,328	170,967
Emergency admissions (spells)	60,794	19,979	40,815
Elective inpatients (spells)	14,256	6,608	7,648
Daycases (spells)	47,174	16,961	30,213
Total activity	506,576	173,017	333,559

Source: NBT & PCT Bristol

Table: 2.4.3.6.ii – NHS Bristol income 2007/08

Description	Total Number	NBT Totals	UHB Totals
New outpatients	£18,681,343	£5,954,096	£12,727,247
Follow up outpatients (consultant, AHP,	£24,402,962	£11,477,032	£12,925,930
Emergency admissions (spells)	£104,394,102	£40,159,008	£64,235,094
Elective inpatients (spells)	£34,572,573	£19,771,146	£14,801,427
Daycases (spells)	£29,698,280	£12,221,307	£17,476,973
Other income	£58,893,923	£30,014,918	£28,879,005
Total income	£270,643,183	£119,597,507	£151,045,676

Source: NBT & PCT Bristol

2.4.3.7 Delivering Performance and Key Challenges

NHS Bristol is performing well in a number of areas against national targets and indicators, including access to GP and primary care professionals, smoking cessation, drug users in treatment, delayed transfers of care, and availability of equipment and adaptations, and medicines management – delivering savings on budget. However, there are performance pressures in delivering some key targets particularly around elective waits, outpatient waiting times and accident & emergency waiting times.

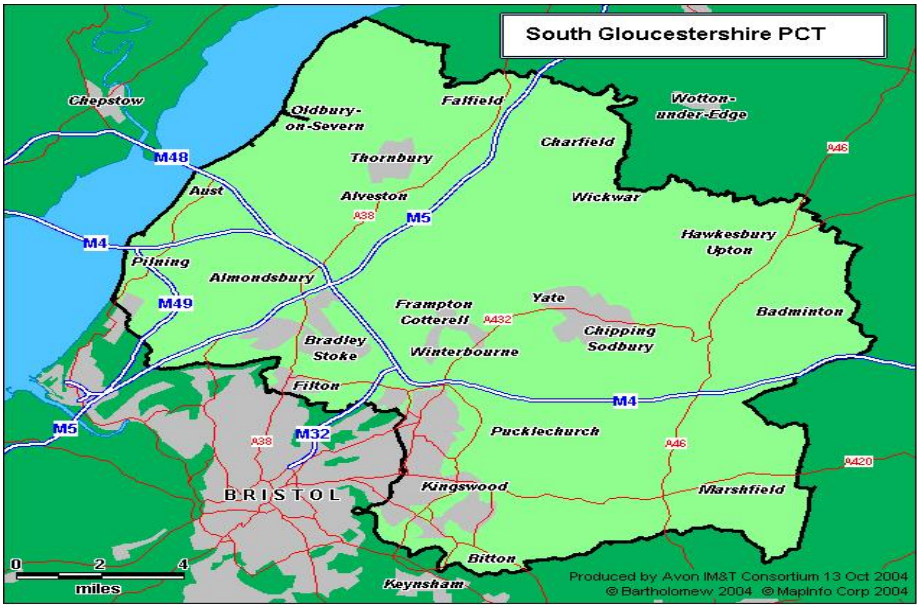
Other key challenges include:

- Currently, insufficient facilities are available to expand the role of primary and community services to realise the ambitions of the Bristol Health Services Plan.
- Lack of appropriate expertise in primary care and in development of new practitioner roles.
- Need to ensure that demand is managed to ensure that secondary care activity is kept within predicted levels.
- Ensuring that the proposed clinical model is financially sustainable.

2.4.4 NHS South Gloucestershire

2.4.4.1 Introduction

NHS South Gloucestershire (formally South Gloucestershire PCT) manages and co-ordinates its planning and service provision around three localities as shown in the map below: Kingswood (104,000 population), Severnvale (85,000 population) and Yate (73,000 population).



2.4.4.2 Strategic Direction

The strategy of NHS South Gloucestershire takes account of the national strategic context set out in this business case. The key strategic themes supported by their plans include:

- A three year plan covering national priorities.
- Developing and supporting the range of services delivered in primary care to provide real choice of alternatives to secondary care intervention.
- Managing demand and activity wherever possible in primary care.
- Fully integrated services that operate across the primary and secondary care interface to support admissions avoidance and intensive community discharge.
- A common pro-active programme of care management for a range of chronic diseases.
- Changing practitioner roles and extending skills.
- Improved access to a range of diagnostic services to support timely and efficient services.
- Modernising mental health services.
- Creating a financially stable healthcare system.
- Increasing the role of the independent sector in delivering services.
- Good quality buildings to support a greater role for primary & community based care.

2.4.4.3 Financial Context

The table below outlines how the budget was spent during 2005/ 2006.

Table: 2.4.4.3 – Financial Spend – NHS South Gloucestershire

Description	Amount (£Millions)	% of Total Expenditure
Main hospital services	123.2	49.8
Mental health services	15.4	6.2
Prescribing	30.7	12.4
GP and related services	35.1	14.2
Learning difficulties	17.8	7.2
Community services	16.6	6.7
Partnership and programmes	0.4	0.2
Ambulance services	4.2	1.7
Management inc capital charges	3.7	1.5
Total	247.1	100

Source: NHS South Gloucestershire Commissioning Prospectus 2007-2008

The PCT met its financial health duties for 2007/08 by delivering a surplus of £1,090K, managing within the Capital Resources limit and the provider services managing within income.

2.4.4.4 Primary Care

There are 28 GP or general medical practices in South Gloucestershire with 157 GPs. There are also 39 community pharmacies in this PCT area. A typical practice will also employ around 20 staff including nurses, management, administrative and other support staff. This equates to around 553 clinical staff across the PCT.

2.4.4.5 Workforce

NHS South Gloucestershire directly employs around 728 whole time equivalent staff, including specialist nurses, health visitors, community nurses, physiotherapists, occupational therapists, speech and language therapists, pharmacists, podiatrists, prison health care staff, managers, clinical support staff and administrative staff. It continues to work with other local health and social care providers to develop robust systems to ensure we employ the staff in the right numbers with the right skills in the right places.

2.4.4.6 Hospital Activity

The table below highlights key activity and income for NHS South Gloucester provider and also split for North Bristol NHS Trust and University Hospitals Bristol (UHB) for the year 2007/08. It highlights that nearly all key activity for the registered population is provided by these two local hospital trusts.

Table 2.4.4.6: NHS South Gloucester activity 2007/08

Description	Total Number	NBT Totals	UHB Totals
New outpatients	50,957	38,169	12,788
Follow up outpatients	133,211	88,224	44,987
Emergency admissions (spells)	25,694	19,921	5,773
Elective inpatients (spells)	8,047	5,548	2,499
Daycases (spells)	25,600	16,951	8,649
Total activity	243,509	168,813	74,696

Source: NBT & PCT Bristol

Table 2.4.4.6i: NHS South Gloucester income 2007/08

Description	Total Number	NBT Totals	UHB Totals
New outpatients	£7,647,363	£5,730,908	£1,916,455
Follow up outpatients	£88,759,366	£85,675,220	£3,084,146
Emergency admissions (spells)	£48,543,350	£40,071,020	£8,472,330
Elective inpatients (spells)	£20,306,084	£15,547,642	£4,758,442
Daycases (spells)	£16,197,965	£10,957,942	£5,240,023
Other income	£62,011,566	£53,594,620	£8,416,946
Total income	£119,597,507	£104,388,112	£31,888,342

Source: NBT & PCT Bristol

2.4.4.7 Delivering Performance and Key Challenges

NHS South Gloucestershire's performance is good in a number of areas against national targets and indicators, including access to GP and primary care professional, smoking cessation, and flu vaccinations. As with NHS Bristol, there are performance pressures in delivering some key targets particularly around elective waits, outpatient waiting times and accident & emergency waiting times. Other key challenges include:

- Insufficient facilities available to expand the role of primary and community services to realise the ambitions of the Bristol Health Services Plan.
- Lack of appropriate expertise in primary care and will need to develop new practitioner roles.
- Risk around management of demand to levels confirmed with secondary care.
- Financial sustainability of the proposed clinical model.

2.4.5 Services Currently Provided Across North Bristol and South Gloucestershire by Commissioning Organisations

A small number of services that were traditionally provided by secondary care are now delivered in primary care. However, the number of these services provided from the community is relatively small and the ability to care for more patients locally is hampered by the lack of available facilities. The following services are currently provided in primary care:

Day case/minor operations: In 2004/5, 5,600 minor procedures were carried out in primary care by what was then BNPCT, compared with nearly 10,000 daycase procedures carried out by NBT for BNPCT patients.

Intermediate care: Historically, inpatient intermediate care has been provided mainly by NBT from Southmead, Frenchay, Blackberry Hill, and Thornbury hospital sites. Some intermediate care has been provided via primary care primarily via therapy and rehabilitation services and largely on a domiciliary or outpatient basis. A programme of intermediate care development within primary care is in place and includes the following:

- Significant intermediate care teams have been set up, working in the community providing active rehabilitation and re-ablement care in patients' own homes. This has facilitated shorter stays in the acute hospitals.
- NHS South Gloucestershire has taken over the management of inpatient beds at Thornbury Hospital which provides general rehabilitation to patients in South Gloucestershire. This is enabling better integration between community-based intermediate care teams and primary care teams.
- A range of long term conditions are managed by NHS South Gloucestershire in the community via the Primary Care Quality Outcomes Framework.
- The community heart failure service covers both PCTs and is run by two general practitioners with a special interest and two specialist nurses.

However, this configuration of primary and intermediate care still means that there are significant proportions of the population (including Central & East Bristol with a population of 113,000, and Yate with a population of over 73,000) currently with poor access to enhanced non-acute services within their local community. These are also some of the areas with the highest levels of deprivation and health need.

In addition to this problem, there is a need to integrate intermediate care and rehabilitation services between NHS Bristol, NHS South Gloucestershire and the acute trusts to deliver a more seamless approach to services.

Outpatient and diagnostic services: A number of outpatient appointments and examinations are provided in local community settings, including at Cossham and Thornbury hospitals. For example, 32 clinics are held at Cossham Hospital each week, equating to approximately 7,000 OPD attendances per year. Plain film x-ray, ultrasound, echo-cardiograms and physiotherapy are provided at the community hospital; however these community-based services are not well integrated with primary care teams.

NBSG are looking to improve the way specialist opinions are provided and change the emphasis in outpatient services away from batched sets of patients with minimal consultation times to a more fluid consultation service providing rapid access consultations to primary care and patients. This approach requires a redirection of resource away from general administrative and outpatient facilities to facilities with state-of-the-art diagnostics.

Urgent care and minor injuries: NHS Bristol and NHS South Gloucestershire have taken over the provision of the out of hours services in each locality. These are still GP-led services, but both organisations are pursuing options to involve nurses and emergency care practitioners to a much greater degree in the provision of urgent and out of hours care. There are two Walk-In Centres in Bristol based in the city centre and in Knowle in the South of Bristol. The city centre facility is used heavily by NHS Bristol patients living in the city. There are no walk-in centres in the north of the city or in South Gloucestershire.

Until 2005 all minor injury services for North Bristol and South Gloucestershire residents were provided from the Frenchay and Southmead A&E Departments. In June 2005, a major service review resulted in the creation of a nurse-led minor injuries unit at Southmead but more community based minor injuries services are required in other parts of the local community.

2.4.6 North Bristol NHS Trust

2.4.6.1 Overview

North Bristol NHS Trust is one of the largest healthcare Trusts in the UK, employing over 6,600 whole time equivalents. The Trust provides a full range of secondary and acute care services for a local population of approximately 410,000 people in North Bristol and South Gloucestershire area. It provides a range of tertiary services to this population, and also to patients in Somerset, Wiltshire and Gloucestershire. Very specialist services such as neurosurgery and nephrology are provided to patients across the South West.

In 2007/08 North Bristol Trust delivered:

- 74,272 inpatient episodes
- 44,177 day case procedures
- 46,5078 outpatient attendances, including 32,5854 follow-up appointments
- 83,025 A&E attendances
- 187,266 plain film exams, (of which 21,000 were at Cossham)
- 42,302 ultrasound exams
- 34,491 CT scans
- 18,511 MRI scans

The sources of income of the Trust reflects the provision of DGH and tertiary services to the local population (Bristol, South Gloucestershire and North Somerset PCTs), and largely tertiary and specialist services to PCTs outside this area. The Trust's non-patient care income includes substantial income for education, teaching and research and also from the provision of specialist pathology and other non patient care services to Trusts across the South West.

Table 2.4.6.i Patient and Non Patient Care Income

	2008/09 £m
Patient Care Income	
Bristol Teaching PCT	124
South Gloucestershire PCT	107
North Somerset PCT	35
South West Specialist Commissioning PCT	20
Gloucestershire PCT	15
Somerset PCT	13
Bath and North East Somerset PCT	10
Wiltshire PCT	9
NCA	6
Other South West Regional PCTs	9
Other PCTs	3
Department of Health (Market Forces Factor)	26
Private and Non NHS	9
Subtotal	**386**
Non Patient Care Income	
Education Training and Research	25
Non Patient care to other bodies	7
Others	22
Subtotal	**54**
Total Income	**440**

Current capacity available to deliver these services includes:

- 1,309 inpatient beds
- 37 day case beds
- 29 operating theatres
- 2 MRI scanners
- 3 CT scanners

2.4.6.2 Services Provided

NBT provides the full range of services across both the Frenchay and Southmead sites, with each site providing a number of specialist services which are not provided at the other. Details of the current provision are set out below:

Elective care: Elective and day-case services are provided on both the Frenchay and Southmead sites. Southmead, however, is increasingly becoming the focus for elective care and carries out all elective orthopaedics for NBT.

Lengths of stay for elective cases are in excess of national averages. In 2007/08, for example, elective orthopaedics had an average length of stay of 5.2 days which compares to the national mean of 4.1 days.

Day case surgery rates are below average. 71.4% of elective procedures were carried out as day cases in 2004/05, compared to a mean day case rate of 73.6% and an upper quartile day case rate of 80%. In terms of the Audit Commission's 'basket' of 25 day surgery procedures, the Trust delivered 73% as day cases compared to a peer group of similar trusts who delivered 78%.

NBT recognises that it needs to move towards more efficient services with rapid assessment capability and short lengths of stay. To enable this, the Trust needs to invest in diagnostic and laparoscopic equipment. Supporting facilities including theatres need to be modernised to accommodate the latest interventional techniques.

Emergency Care: Frenchay Hospital is the major A&E department for NBT with Southmead providing a nurse-led minor injuries service. Emergency care at Frenchay includes accident and emergency "majors", trauma services and emergency surgery.

Both sites provide acute medical care, including general medicine, respiratory medicine, and intensive and high dependency care.

In 2007/08, NBT dealt with 83025 A&E attendances. Given the Trust's catchment population of around 500,000, this equates to 188 attendances per thousand population.

Compared to national averages, emergency patients stay a relatively long time in hospital. For example, in 2004/05 emergency spell length of stay in general medicine was 10.7 days which is considerably higher than the national mean of 6.9 days.

NBT is looking to develop the way in which emergency and acute services are provided by integrating the receiving functions at both hospitals. This will allow concentration of senior decision-making skill and consistency of approach irrespective of how the patient presents to the hospital. This ambition is limited by the provision of acute services across both sites.

Tertiary Care: The Frenchay and Southmead Hospitals provide tertiary services including pathology, renal, (including transplantation), urology and ENT/OMF from the Southmead site and neurosciences, trauma and plastic surgery including burns from the Frenchay site. The current provision of supporting services across two sites means that high tech equipment intensive care services are dispersed and there are associated staffing difficulties.

2.4.6.3 Workforce

Across Bristol, North Somerset and South Gloucestershire the NHS employs nearly 20,000 staff, which represents 5% of the total working population in the area. Over half of all staff are employed in qualified healthcare roles (54%), whilst 22% occupy healthcare support roles. The NHS is, therefore, a major employer within the local economy.

As at 31 March 2008, North Bristol Trust had a staff establishment of 6,695 WTE, with the NHS South Gloucestershire 440 WTE and NHS Bristol 1,613 WTE. Full details of the breakdown by staff group are given in Section 12.2.2.

The Trusts are fully committed to the modernisation of the workforce, and therefore a number of initiatives are being taken forward to develop new roles, for example Emergency Care Practitioners, Advanced Primary Care Nurses and Anaesthetic Assistants. The development of these roles will contribute to the implementation of the new clinical model of care, and to the ability across the health community to sustain future primary, community and acute services.

North Bristol Trust faces considerable problems in sustaining a workforce with the full portfolio of knowledge and skills across both the acute hospital sites. In particular this relates to the ability to sustain the medical workforce on both sites, taking into account the implications of the European Working Time Directive. From 2009 the maximum duty hours per week will be 48, and whilst these changes are positive in terms of the provision of good quality care, they will have a major impact on the organisation of junior doctor rotas. The implementation of Modernising Medical Careers has further reduced the service commitment of doctors in training, and therefore both these initiatives mean that the introduction of new roles to support and cover work previously undertaken by doctors in training becomes an imperative.

NHS Bristol and NHS South Gloucestershire are undertaking considerable workforce development, to underpin the development of primary and community care. In particular the development of case management skills and the implementation of the Advanced Primary Nurse role (Community Matron) will form a very important part of the community infrastructure.

2.4.6.4 Education and Research

As a major teaching Trust, North Bristol Trust is a very significant provider of work based learning placements for medical, nursing, midwifery, allied health professions and clinical scientist students. It has key research and education relationships with the University of Bristol and the University of the West of England and also works with a wide range of other universities in specific areas of research and education. The Trust is fully committed to the continuing education development of its entire staff and it is the lead organisation in the Bristol North Academy.

The Trust has a major contract with the Severn and Wessex Medical Deanery for the foundation education of junior doctors and works closely with the Deanery and the Royal Colleges to provide more advanced specialist medical education.

Research activity in the Trust has expanded rapidly over the last five years and is now regarded by the Department of Health as 'strong' in all programmes. There are particular strengths in translational research and the Trust is well positioned in the new UK Clinical Research Collaboration Network set up between the Department of Health, the Medical Research Council and major health research charities.

Knowledge management is a significant component of all education and research activity and also contributes importantly to the day to day delivery of high quality care and to the achievement of sound clinical governance. The Trust has worked in partnership with the National Electronic Library for Health to develop its custom built Knowledge for Health portal which provides 'two click' desktop access to a wide range of health relevant databases for all staff and students of NBT and other partner health and social care organisations.

The difficulties the Trust faces currently are connected to three main features:

- A lack of integration of the academic activities around the Trust's sites. There are currently a wide scattering of academic activities on the Frenchay and Southmead sites and this is leading to difficulties in co-ordination and maintaining a systematic approach to learning. This will be addressed with the opening of Learning and Research in 2009.
- An absence of educational and learning space in most of the Trust's front-line clinical environments. This makes it difficult to meet the requirement to provide teaching at the 'patient's bedside'.
- An under-investment in state-of-the art skills laboratories that allow the Trust to develop the latest teaching techniques based around simulation.
- The Trust's academic strategy aims to address this issue by pulling together all the academic functions into a single concentrated programme, trying to create space for front-line education opportunities and modernising simulation and skills laboratory facilities and programmes. This will be enabled by the concentration of services onto one site.

2.4.6.5 Estates Strategy

The Estates strategy was defined in the OBC and has been checked to ensure it is still appropriate and relevant. An up to date analysis is shown below. The PFI scheme and all other planned capital projects are fully consistent with this Estate Strategy. The preferred bidder scheme complete with Long range development Plan will be used to produce a revised iteration of the strategy.

NBT provides services from a number of sites, the details of which are as follows:

- **Frenchay Hospital:** Frenchay Hospital is located on a 28 hectare site in South Gloucestershire, immediately to the east of the M32. The site includes a significant area of conservation land (8.2 hectares). The horizontal layout is extensive and many patients requiring surgery have to be transported considerable distances between buildings, wards and operating theatres. The first phase of redevelopment to provide over 200 beds and a purpose built day surgical suite was completed in the early 1990s.

  Generally, whilst many high quality clinical services are provided at this hospital, the environment and underlying infrastructure fall far short of the standard required for a modern health service.

- **Southmead Hospital:** Southmead Hospital is located on a 27 hectare site in North Bristol just over two miles to the west of the M32. It was constructed as a workhouse and infirmary at the beginning of the 20th century. New facilities were constructed in the early 1990s to allow the rationalisation of the Ham Green Hospital in Pill and the transfer of the Winford Hospital (a specialist Orthopaedic Hospital) to the then new Avon Orthopaedic Centre on the Southmead site.

  Since then investment has largely been concentrated on providing a leading edge advanced clinical information system and a number of ambulatory care units for gynaecology and oral surgery and on upgrading the basic infrastructure. Virtually all the accommodation is housed in one or two storeys. The resulting horizontal layout of the hospital means that the distance between outpatient, diagnostic, operating theatre and critical care facilities can be extensive. Only a small number of services have a patient centred design. These include musculo-skeletal, women's health, renal and respiratory medicine.

- **Blackberry Hill Hospital:** a 14 hectare site located one mile to the south of Frenchay Hospital. It was originally a prison constructed at the time of the Napoleonic Wars. North Bristol NHS Trust also manages an inpatient facility for child and adolescent psychiatry on this site. The majority of the site is now not occupied by the Trust and therefore a considerable amount of the site is in the process of being sold.

- **Thornbury Hospital:** is a 1.6 hectare site. It consists principally of a 2-storey building built in 1993 which accommodates a 24 bed GP ward. The Thornbury Hospital estate continues to be owned and managed by NBT. Outpatient services are provided in part of a 1970s built former maternity unit, but the remainder of this building is vacant. The site is adjacent to Thornbury Health Centre.

- **Cossham Hospital:** provides outpatient and diagnostic services and physiotherapy. It is also a base for community mental healthcare teams and intermediate healthcare teams. Cossham Hospital is a 2.44 hectare site which has existed on the site since 1907. Planning is underway to refurbish the hospital, enhancing the service provision by early 2011.

- **Ham Green:** is a 0.65 hectare site. The remaining NHS facility is Orchard View, a 16 bed respite care centre for younger physically disabled people plus day unit. This was built in 1972 and is the only remaining part of what was a 300 bed general hospital built from 1910 onwards, which was closed in 1992.

- **Wendover:** is a 0.21 hectare site. It is used as offices for the Women and Children's Health Directorate, and was the former Wendover Maternity Hospital. It is situated between Fishponds and Downend and is adjacent to Downend Day Centre (Social Services).

The Trust has developed an estate strategy that summarises the current building infrastructure and the plans for development. As part of developing the estate strategy and then subsequently preparing the sites for development, the Trust has reviewed the existing estate and its findings include:

- **Functional Suitability**: Only 57% of the Frenchay estate has been graded A or B whilst 80% of the Southmead site is in this condition. Wards on each hospital site are of varying sizes, with different space allowances per bed. A large number of wards are non-compliant with NHS consumerism standards, with inadequate en-suite accommodation and gender separation of bathroom and other sanitary facilities. There are also a number of difficulties in providing services because interdependent departments are spread around the site.

- **Physical condition:** Only 54% of the Frenchay estate and 66% of the Southmead estate has been graded in condition B. This classification reflects the quantity of ageing and unsuitable.

- **Space utilisation**: A review of space utilisation by the Trust identified a number of areas that could be utilised more effectively. The 6-facet survey showed that 87% of the facilities were fully utilised at Frenchay, with 77% at Southmead. Between 4% and 7% of the space was overcrowded. The main limitation on the Trust was the arbitrary way in which some of the estate has grown and the wide arrangement of small bespoke buildings. A targeted space utilisation study was commissioned in 2005 that looked at certain key departments and concluded that a number of these departments were under-utilised.

- **Quality of Estate**: The strategy includes an estate age profile and shows that the majority of the estate is over 40 years old, 25% of the overall floor area being built post 1990, and 49% of the site being built pre-1960. This estate generally shows its age with poor ratings. The Estate Strategy concluded that: 'The infrastructure (heating, ventilation, power etc.) is gradually deteriorating to an unacceptable condition. It requires significant investment to ensure it can support hospital services over the long term.' The design of all wards falls short of the standards currently expected for the maintenance of patients' dignity and privacy. With the introduction of updated standards for ward accommodation, in terms of increased proportion of single en-suite rooms and increased space in other patient areas, the difference between the older ward areas and new standards has become more marked.

- **Statutory Compliance**: There are substantial constraints to meeting statutory targets in the internal arrangement of the ward areas. Many areas do not comply with the requirements of the Disability Discrimination Act. Full compliance could only be achieved throughout the Hospitals with significant investment. With regard to fire compliance only 60% of the Southmead Estate and 55% of Frenchay are condition B with regard to General Fire Condition.

- **Environmental Management**: The Trust Estate is in major need of an overhaul with, for example, water at Frenchay being assessed at 52% below condition B. There are a range of difficulties with providing an energy efficient estate including the need to replace windows, a prevalence of temporary thin-skin buildings and a scattering of low-rise buildings across the Trust' sites that inevitable mean long distances of travel for steam along ageing pipe-work.

- **Backlog Maintenance**: The poor quality of the existing estate inevitably leads to a high backlog maintenance requirement. This is identified in the following tables. The figures are those provided in the ERIC return, and are at MIPS 447. VAT and fees are not included.

The main statistics relating to the estate are summarised below:

Table 2.4.6.7i

Southmead Hospital	
Total Site Area	27.10 hectares
Building Floor Area	84,589 square metres
Value of land	£32,010,000
Value of Buildings	£93,144,623
Energy Liability	231,579 Giga-joules
% Condition A & B	65.7%
Backlog Maintenance	£34,439,000

Table 2.4.6.7ii

Frenchay Hospital	
Total Site Area	28.10 hectares
Building Floor Area	67,776 square metres
Value of land	£37,192,000
Value of Buildings	£67,054,065
Energy Liability	154,144 Giga-joules
% Condition A & B	53.5%
Backlog Maintenance	£38,252,000

2.4.7 Information Management & Technology (IM&T)

The new clinical models of care provided across the acute, specialist and community facilities, will be supported and enabled by an IM&T strategy (Appendix 2.i) This strategy includes the development of modern IM&T infrastructure, up to date applications systems and robust information management.

There must also be a clear focus on the external customer – the patient, and the internal customer – clinician, manager, and staff – as the prime deliverer of our core business – helping people stay well, and get better.

The principles underpinning the strategic support and operational enabling that IM&T provides for and within the new hospital and related facilities, to deliver the new models of care are:

1. **Patients** – in all we do, we should ask, "is this what the patient deserves and needs?"
2. **Quality** – excellent service, robust, reliable systems, safe and confidential.
3. **Affordable** – delivers the reality within the affordability for the organisation.
4. **Paperless** – in reality this will be "paper-lite" rather than "paper less", but this is the goal.
5. **Freedom** – wireless technology, freeing staff to deliver services when and as required.

Patients
Information and technology needs to support the patient experience along the whole journey. This will include:

- Online and telephone booking services to make an appointment after seeing a GP.
- Clear, appropriate communication via letter or email when being sent information or appointment details.
- An integrated patient record, ensuring that all information is available to the healthcare professional delivering care, but protected from those who should not have access.
- Capturing information on a patient's condition in one place.
- Providing information on treatment from home, information on the Trust on the Internet, and even monitoring patients whilst at home or in the community, instead of bringing them into hospital.

Information needs to be available, understandable and easy to use, in all aspects of a patients experience with North Bristol – including for a patient's referrer (e.g. GP), to ensure a smooth and timely patient journey.

We must ensure as IM&T investment and deployment is made, that the benefits of this change are understood, quantified and then delivered within the organisation, to improve the clinical, operational and/or financial position to the benefit of the patient and the organisation.

Quality

Modern systems will enable clinicians to view all aspects of the patient record, from test results and nursing documentation, to vital signs monitoring, from a single location – and from any location where they have access. This is a powerful tool to aid clinical treatment, and improve the experience for the patient.

At the same time, with much information centred in one place, we must ensure that information is protected and secure, and only those who are supposed to have access do. Systems must be safe and robust – the medical record or images cannot stop being available during an appointment or an operation because of a computer problem.

In an increasingly competitive NHS market, there is a need to ensure financial and business systems are equally robust and sound, so that information is available in the form that is required, when it is required and that all systems are fit for purpose.

Affordable

IM&T must continue to deliver within its means and to sensible investment plans that deliver real benefit and relate to real organisational problems that need solving. Technology must never be for technology's sake.

A sustainable capital plan has been developed, significantly linked to the implementation of the NHS Care Record (NCRS) through to opening of the new hospital. Investment towards the new hospital development is also planned, including the enabling works such as the new Data Centre.

Investment must be optimised moving forward, for example, looking at ways to merge the usage of Facilities and IM&T infrastructure, so that there is not duplication, e.g. one set of wires, common e-card systems, single help desk, etc.

We should also remember how technology can release money, and seek to drive out the benefits that new technologies may afford, e.g. telecommunications and cheaper phone calls, enabling the redesign of patient admin processes.

Paperless

There is so much paper moving around North Bristol (and the wider NHS), that if this was to be reduced by a significant percentage, it would substantially improve the productivity of organisations, save money on the paper, transportation and storage and ensure information could be accessed far more readily.

It is a specific objective to virtually remove physical medical records during this time, but to go further and reduce as much paper as possible from around the organisation, which will lead to new ways of working, instant access to information, and an ability to respond faster to both patient demand, clinical need and business pressure.

Freedom

We are all used to wandering freely with our mobile phones, and yet are often restricted to our desks to make a call at work, or a specific "computer point" to look up information.

By removing the physical connections within the hospital boundaries, and beyond, we can seek to transform how many people work, how information is passed around (e.g. enabling fast action to be taken to protect vulnerable children), where people work from, supporting flexible working policies and contributing to the attraction of North Bristol as an employer – a modern, grown up place to work.

The Trust is developing an IM&T strategy, which will involve a thorough modernisation of:

- IM&T infrastructure
- Applications Systems
- Information Systems

The IM&T infrastructure will be underpinned by:

- A full Trust network, with wireless capability, especially in clinical areas, allowing access from any desirable location to IT systems and information, and for all staff.
- High levels of PC penetration, allowing access to information and systems, and supporting the organisation directly. People to PC ratios, generally, will be in the region of 2:1.
- Modern, personalised telecommunications systems, supporting patient access to information and aiding communication within the organisation, will be available.
- Standardised, streamlined processes (from PC requesting to systems access, from extension changing to video conferencing set up).
- Infrastructure to carry a range of digital services, covering security, pass-card information and images and alarms.

The Trust's infrastructure will be supported by first class customer service, from a central Help Desk facility, working alongside Facilities, to provide a combined support organisation.

Applications Systems will provide:

- A single, modern IT system supporting administration and clinical requirements, including prescribing, decision support and clinical documentation. This will integrate with partner organisations systems across the Health economy to assist with care delivery across the patient pathway.
- Integration of this single system with those of other NHS organisations in the areas, including PCTs, allowing easy sharing of information and moving of patient record information.
- No more than 50,000 paper records stored on site, with a 90% computerised/ electronic patient record, with full flexibility to move beyond the "hospital boundary", utilising the same record in community and primary care settings. This is vital to deliver many of the new models of care.
- Electronically delivered x-rays and other images, direct to PC/workstation screens. Actual "film" movement will be minimal.

Robust Information systems will provide:

- Accurate information across a range of systems, to provide clinical, operational, managerial, financial and patient information.
- Accurate and timely clinical coding, coupled with modern financial systems will assist with providing financial information to help manage the operational services, within the financial envelope.
- Knowledge management services available from education facilities, libraries, information points, and indeed, across the Trust, enabling clinical and non-clinical educational information to be available to all staff.

IM&T will support the new models of care, and deliver real benefits to the Trust and health community to provide the necessary information and technology infrastructure, required to deliver the development and new services.

Regeneration and Neighbourhood Renewal

Bristol's Community Strategy produced by the Bristol Partnership, the Local Strategic Partnership, describes how the vision of Bristol as a thriving, vibrant, learning and diverse city can be achieved.

The strategy has five aims:

- Achieving lifelong learning
- Building a thriving economy
- Strengthening local communities
- Promoting health and well being
- Investing in a sustainable environment

The local targets for health and wellbeing are to reduce death rates from Cancer, Stroke, and Heart Disease, to reduce exposure to second hand smoke, to increase the number of people reporting improved mental health and wellbeing and to halve the number of teenage pregnancies. Priorities to address these include projects for young people, support for community projects and priorities where there is evidence of successfully building community capacity, income maximization, promoting healthy lifestyles and improve workplace health promotion.

The Bristol Partnership also aims to improve neighbourhoods and the quality of life in the city so that by 2011 no one is seriously disadvantaged by where they live. To achieve this, the Bristol Partnership has developed the Neighbourhood Renewal Strategy.

There are ten neighbourhood renewal areas across Bristol including Knowle West, Hartcliffe & Withywood, Ashley, Barton Hill, Easton, Hillfields, Lawrence Weston, Lawrence Hill, Lockleaze and Southmead.

The Neighbourhood Renewal Strategy includes a number of key points on health:

- Neighbourhood Renewal has invested in a support worker for teenage mothers. Money is being invested in sexual health services in Knowle West and Southmead.
- Evidence suggests that young people are reluctant to access primary care services especially for sexual health. A recent survey of GPs also showed that they are unclear about seeing under-16s without a parent or guardian. If young people can be encouraged to use primary care services, they are much more likely to continue to do so in later life.
- Further work will be commissioned with schools in Neighbourhood Renewal areas where link workers would make services more accessible.
- The approach, agreed with the Primary Care Trusts, is to focus on access to primary care provision, including culturally sensitive provision and advice for black and minority ethnic communities. A heath promotion specialist has recently been recruited by South Bristol Primary Care Trust to work with Neighbourhood Renewal partnerships in addressing local needs.

In addition, the Bristol Partnership's regeneration strategy, supported by the PCTs, aims to create communities where people live within walking distance of community services and ensure that hospitals among other services are accessible through good and reliable public transport.

PCTs are involved at all levels in neighbourhood renewal. The Bristol partnership now has a health and wellbeing delivery group chaired by the Joint Director of Public Health overseeing the local work of the health theme groups in each neighbourhood renewal areas. An Assistant Director of Public Health sits on the Regeneration Delivery Group, the Health & Wellbeing Delivery Group and the Equalities Action Group of the Bristol Partnership. Senior Health Promotion Specialists support each local neighbourhood Renewal area group and health theme groups.

The Trusts aim to assist with this agenda of urban renewal and there is an ambition in North Bristol and South Gloucestershire to link the overall health benefits associated with neighbourhood development with the specific delivery of Health Services. A regeneration strategy has been commissioned by NBT and will be used to inform next steps.

The Trust has agreed a Travel Plan for both the Frenchay and Southmead sites (Appendix 2.ii). Whilst the main driver for the development of 'A Better Way to Work' has been the need to address the specific problems of poor access and parking at Trust sites, the Trust is also responding to the obligations of transport and healthcare policy, and by the need to consider the transport impact of future healthcare infrastructure development.

2.5 CONCLUSION OF STRATEGIC CONTEXT

The national pressures described above have led to the development of the Bristol Health Services Plan and an ambition to change the way services are provided across Bristol, South Gloucestershire and North Somerset. To underpin this change programme, the Trusts have developed a programme of public consultation and engagement.

SECTION 3: STAKEHOLDER AND COMMUNITY ENGAGEMENT

Stakeholder and community engagement has played an important role in the development of the plans for the redevelopment of Southmead Hospital. A number of methods have been used to encourage involvement from members of staff, patients, carers and the public and other stakeholders across the local community.

3.1 INVOLVING PATIENTS, CARERS AND THE PUBLIC

The Trust considers the involvement of patients, carers and the wider community an essential part of its role in delivering and developing services. It currently has over 1400 Foundation Trust members, who were originally recruited as part of the Foundation Trust application process. The Trust is continuing to communicate with Members regularly and this membership provides an opportunity for the Trust to update a wide group of people about the hospital and its plans.

The Care Forum is the local host voluntary sector organisation who co-ordinate Local Involvement Networks (LINks) for both Bristol and South Gloucestershire. Both areas now have steering groups which in September will decide which thematic sub groups they want to form based on the Department of Health's Joint Strategic Needs Assessment. LINks members will provide another way of understanding patient experience across the health and social care community and as they become more embedded North Bristol NHS Trust can begin to work more closely with them. The Trust will continue to actively engage with them in developing services for the new hospital.

In terms of specific engagement on the new hospital, a strategy for stakeholder and community engagement was developed in February 2007. The strategy identified the level of public involvement required in the project work-streams and how this engagement would be achieved. The non-clinical work-streams for which members of the public have been selected and in which they participate include:

- **Design Group** - responsible for site master plan and aesthetic design.
- **Facilities Management** - responsible for areas such as cleaning, grounds and gardens or parking.
- **Communications and PPI Group** - responsible for the communications strategy and implementation plan in relation to presenting the project to and discussing with external stakeholders.
- **Fresh Arts Committee** - responsible for overseeing the development of and implementation of bidder arts strategies.
- **User and Access Group** - comprising solely of members of the public, users and carers who act as a sounding board and advisory group in assessing bidder proposals particularly in relation to access.
- **PPI Network Group** - a forum for all participating patients and members of the public to come together to share their experiences, give feedback on their involvement in the project and receive updates on the project as a whole. It offers support to the public and patient representatives.

An inclusive recruitment and selection process was put in place to ensure that patients and members of the public were appropriately matched to work-streams. Members were selected for each of the designated groups following a recruitment campaign from the following sources:

- The database of those who have expressed an interest in becoming a NBT FT member
- NBT Patient Panel
- NBT Patient & Public Involvement Forum/LINks
- Equality & diversity groups and organisations

User involvement in the clinical redesign work is via professional patient representation which embodies a wider patient experience than individual ones. The patient representatives are accountable to the organisation they represent e.g. for diabetes this would be a representative from Diabetes UK.

The Southmead Hospital Redevelopment Project Board provides a PPI quality assurance function. It assesses whether public and patient involvement in the project has been successful. The user involvement has been formally evaluated by the Communications and Public and Patient Involvement Group, and a report provided for the Project Board. This report is given at Appendix 3.i.

Other methods of communication include:

- Regular Newsletters.
- Stakeholder events such as open days.
- Press releases and information circulars.
- Attendance at Supermarkets.
- Displays in local libraries.

North Bristol NHS Trust completed an Equality Impact Assessment on the proposed re-development of the Southmead site in September 2008. This identified the positive impact on equality as a result of the scheme, the improved provision for disabled people and the further action needed on engaging hard to reach groups.

A more detailed process of engagement in the preferred scheme will commence following appointment of the preferred bidder.

3.2 INVOLVING STAFF

The Trust has used a range of channels of internal communications to ensure staff in all areas of the Trust have access to the information they need. The key methods are set out below:

Insite magazine
The Trust produces a bi-monthly staff magazine that has a mix of human interest and corporate stories. This is a good vehicle for providing an overview or in-depth look at issues such as the development of the new hospital at Southmead, associated community facilities and enabling works.

For the first time in 2008, the Trust produced a special annual edition of Insite that looked back over the last year and explained how the Trust's objectives were met. This was a means of communicating good news to staff in a fun, easy-to-read format. As one of the Trust's five objectives, the development of the new hospital featured in this publication.

What's Happening?
The trust publishes a monthly rundown of what has been discussed at the latest Trust Board meeting. This is emailed to all staff, posted on the Intranet and used as an information cascade by directorates. This regularly includes an update on the new hospital and associated community facilities.

Weekly Bulletin
Currently facilitated by the IT department, the Weekly Bulletin is sent out via email to all staff every Friday afternoon. It carries a mixture of articles from retirements to detailed clinical information, training information and day-to-day operational information like changes to contact details. This is used to alert staff to dates of meetings about the new hospital.

Message of the Day
Message of the Day (MOTD) is an electronic message that appears on computer users screens each time they log in. The message is updated on a daily basis, making it an effective way of conveying the latest news/developments to staff. The Trust has used this to update staff quickly about developments on the new hospital, associated community facilities or the enabling works.

All Users Emails
All User emails are an effective tool if information needs to be sent to staff quickly. Like Message of the Day, this is used by the communications department to inform warn staff about big news stories and developments. This method allows the Trust to provide more information than Message of the Day and provide staff with an update on the new hospital, associated community developments and enabling works.

Chief Executive's staff meetings
Held every two months at Frenchay and Southmead, the meetings are an opportunity for staff members to hear about latest developments from the chief executive and to ask her any questions. Several of these meetings have been entirely devoted to the new hospital.

Intranet
The Trust has a staff Intranet which is continually updated to make it easy for staff to find the information that they need.

Annual Report
The annual report is produced each year by the communications department in line with national requirements. As one of the Trust's five objectives, the development of the new hospital featured in this publication over the past five years.

Directorate newsletters
Some directorates produce their own newsletters as a means of communicating with their own staff members. These also include relevant updates on the new hospital and enabling works.

3.3 ENGAGEMENT IN BIDDER DESIGNS

There has been active engagement of staff from throughout the Trust in the emerging bidder designs since the beginning of the competitive dialogue process. Twelve sub-groups have been established with staff members who have expert knowledge of their subject areas. These staff groups have assisted the project team in reviewing designs and identifying patient flows and staff requirements.

The following staff groups have met:

- Inpatients
- Ambulatory care : outpatients and therapies
- Theatres
- Imaging
- Critical care
- Other core clinical
- Clinical offices and whole hospital
- Emergency assessment unit and minor injuries & minor illnesses
- Emergency ward
- Community hospital
- Workforce
- Soft FM services

Directorate leads have been identified to take on the role of disseminating information regarding the new hospital to their directorate teams. They also organise presentations and, seminars which members of the project team attend. This is used as a method of updating and receiving feedback on emerging bidder designs.

Presentations have been arranged for staff which have either been delivered by members of the project team or by the bidders themselves. These have been held on the Frenchay and Southmead sites to ensure as many staff as possible have had an opportunity to hear about the proposals and designs.

Bidders have been required to present their proposals to a monthly Design Group. They have also presented to an audience of approximately 200 people on or after the submission of their draft bids. These large presentations were held for their interim bid on 18 December and for their draft final bid stage two submission on 24 July. The audience included members of the work-stream groups, clinical sub-groups and other stakeholders such as PCT representatives, Bristol City Council, third parties (National Blood Service, Avon and Wiltshire Mental Health Partnership), the Strategic Health Authority and the Department of Health. All patient and public representatives were invited to and in most cases did attend.

3.4 WIDER ENGAGEMENT AND CONSULTATION ON TRUST ISSUES

3.4.1 Bristol Health Services Plan and New Hospital Consultation

The Bristol Health Services Plan (BSHP) was overseen by the BHSP Steering Group during the development of the proposals for services across Bristol, North Somerset and South Gloucestershire. This role is now undertaken by the BNSSG Chief Executives as part of their routine process of meeting.

As part of the Bristol Health Services Plan process, the Trust and its peer organisations undertook detailed consultation on the plans for the reconfiguration of services across Bristol, North Somerset and South Gloucestershire. In terms of the new hospital for North Bristol, the BHSP consultation process made clear that whichever of the existing NBT acute sites was not selected to be the site for the new hospital would be developed as a community hospital.

Following the formal evaluation of the two sites, in March 2005 the local NHS decided that Southmead should be the site for development of the acute hospital and Frenchay should become a community hospital. Following this decision, a group opposing the decision established themselves as the Save Frenchay Group. This group received strong support from local MP Steve Webb. They have made a series of attempts to get the decision reversed including petitioning South Gloucestershire Council to pursue a Judicial Review, an approach which the Council ultimately decided not to pursue following legal advice. It was made clear to stakeholders (including South Gloucestershire Council) that because the community hospital could not be developed at Frenchay until after the transfer of acute services to Southmead in 2013, the planning for the Frenchay Community Hospital would take place at a later stage than the planning of the new hospital at Southmead. The process of planning the Frenchay community hospital was started in 2008, led by NHS South Gloucestershire, with inputs from a variety of stakeholders including the Save Frenchay Group and an elected member from South Gloucestershire Council

3.4.2 Engagement with MPs/Local Councillors

The local NHS has actively engaged with MPs and local councillors throughout the BHSP consultation process and since. The routine briefing of local MPs on progress with the BHSP has been led by PCT Chief Executives, and NBT has also provided briefings for MPs in response to their requests for information. The local NHS has worked closely with individual health scrutiny committees and with the Joint Health Scrutiny Committee (JHSC) established by the three local unitary authorities. The JHSC has received regular six monthly briefings on progress with the delivery of the BHSP since decisions were taken by the local NHS in March 2005.

3.4.3 Engagement with Other Stakeholders

The Trust has engaged with a wide range of stakeholder in taking forward the new hospital plans. A strong working relationship has been established with Bristol City Council (BCC) in relation to planning issues, sustainability and urban regeneration. The Council has continued to provide support and advice to the Trust throughout the on-going development of the bidder schemes. A member of the urban planning team is a formal member of the Trust's Design Group and participated in the bidder evaluation process. A member of the BCC sustainability team sits on the project's sustainability group and the Public Arts Officer sits on the Trust's Fresh Arts Committee which has been responsible for evaluating the bidder schemes.

Discussions have been held with First Bus, Great Western Ambulance Trust, Avon and Wiltshire Mental Health Partnership and the National Blood Service as important stakeholders and service providers. All have been invited to the evaluation events held with bidders in December 2007 and July 2008.

SECTION 4: CLINICAL STRATEGY

4.1 PURPOSE

The section describes the clinical strategy and the model of care which underpins the principles and specific proposals which have been developed within the BHSP and within this ABC. The intention is to develop this strategy from a patient's perspective and explain how it has lead to:

- An implementation plan to put in place the proposed clinical strategy.
- Detailed specifications for the new hospital on the Southmead site and community facilities.
- A workforce plan describing the redesigned and new roles that will be in place for future healthcare delivery.

This strategy is a 'live' document and will need to be adjusted to reflect the changing scope of services in the area. This changing scope will need to respond to local and national reviews of service configurations.

This clinical strategy should be applicable to any configuration of organisations including any restructuring arising from patient choice and from 'Commissioning a Patient-led NHS'. Essentially the model will continue to apply as PCTs divest themselves of provider services, as contestability emerges in primary and community care services, as the independent sector take on increasing secondary care work and as NHS provider trusts become foundation trusts.

The model has been developed taking into account the need for all elements of the local health system to improve their productivity. Implementation of the model with its proposals for seamless services between primary and secondary care will result in significant efficiencies to the local health economy.

The North Bristol and South Gloucestershire development covers two main strategic areas:

- The provision of a local health care system within which all the component parts work smoothly together. This part of the strategy looks at how the key parts of primary and secondary care work together, and with other key elements such as social services providers. This strategy considers how the local services can be structured into new systems that promote health and deliver emergency, planned and general healthcare. The strategy also addresses how a fundamental shift towards primary care and community based services can be achieved.

- The construction of a network linking local services with more acute and specialist provision. Part of this strategy concerns developing some of these specialist networks with UHB and looks at how these specialties can be configured across the acute trusts to add to the quality of local services.

4.2 OBJECTIVES

The major drive for the development is improved patient care and better health for the local population. The overall objectives are to:

- Provide care closer to the patient's home where clinically appropriate.
- Provide effective local health services by harmonising primary care, social care and local hospital services.

- Develop specialist services and networks for a wider group of patients within the NHS, providing faster access to high-quality specialist opinion.
- Provide a vibrant learning and research culture that benefits clinical services.
- Improve the efficiency and value for money of services.
- Enable local services to respond to national initiatives.

Staff, patients and the local community have been, and will continue to be, involved in the development, implementation and communication of the project.

4.3 MAIN PRINCIPLES

The development will put the patient at the centre of the new care systems, and is characterised by a set of first principles as follows:

4.3.1 Our Services

- **Enhancement of Primary Care:** The role of primary care as the principle orchestrator of patient's care will be enhanced and developed. The clinical model will enable primary care to support the patient, maintain the patient's independence and reach rapid and accurate diagnoses. Admission to inpatient services will be avoided where appropriate. The role of primary care is developing to manage a greater proportion of the patient's care and to manage the patient's overall journey through the health system. Care will be provided closer to the patient's home wherever possible and clinically appropriate.

- **Joined up Hospital and Community services:** Better outcomes can be achieved by joining up hospital, community and social care services more effectively, facilitated by use of technology including the National Care Record Service.

- **Concentration of Acute Services:** More rapid and effective decision-making, avoidance of duplication and increase in quality, flexibility and speed of throughput can be achieved by the concentration of acute and specialist resources and expertise in a smaller number of places.

- **Patient Empowerment:** Patients and carers will be supported and encouraged to make informed decisions regarding their health and condition and will be full partners in the development and delivery of care plans.

4.3.2 Delivering Our Services

- **Rapid Access and Rapid Throughput:** Patients will get treatment as soon as they are clinically ready and will not be waiting in queues for a diagnosis or treatment. Immediate expert assessment will be provided to patients with acute problems when required, leading to better health outcomes, more efficiency and prevention of crises. Services will concentrate on solving problems promptly and returning people to their homes as quickly as possible through close liaison between hospital and community services, active case management and accelerated recovery programmes.

- **Harmonisation of Approach:** Equity of access for patients will be achieved by a more systematic approach across the community including the adoption of joint protocols by community and social care providers.

- **Case Management:** Patients in all parts of the health system will receive co-ordination of their care by staff who will be responsible for them. To enable this co-ordination, there will be an integration of assessment and planning processes for patients.

- **Flexibility:** Services will be designed that have the ability to flex and change in response to changes in technology, service approach and overall clinical process. They will be responsive to local needs and national drivers. This will dictate a more generic approach to the provision of beds, theatres and diagnostics.

- **Governance:** Shared governance arrangements will support the models of care with an emphasis on enabling patients to move smoothly between services regardless of organisation. There will be mechanisms in place to ensure clear lines of responsibility and accountability for care across organisations.

4.4 SCOPE

This strategy is based on the new configuration of services that is set out in the BHSP and is intended to provide the most efficient set of services in each location in Bristol.

Central to this new configuration is a concentration of A&E and acute assessment services within Bristol into two main receiving centres at Southmead and the BRI. These will complement services at Weston General Hospital. This strategy allows the provision of an acute core that can respond flexibly to changes in demand and work as a single acute and emergency system. This integrated core will be characterised by a range of single processes including:

- Networked receiving arrangements for emergency patients, to allow ambulance services to direct activity in line with capacity at either site.
- Routing of GP referrals for inpatient admission, based upon capacity.
- Potential to open or close operating theatres at either site out-of-hours.
- Single clinical teams e.g. for cardiology to allow for round-the-clock interventional/emergency rotas.
- Networking of imaging and telemedicine to enable decision-making at a distance.
- Widespread and comprehensive adoption of modern technological solutions.

Services will be located at either site, with a principle that service configuration takes into account:

- Location at both sites of services that are required to support the effective running of A&E services.
- Concentration of other services where concentration of expertise and equipment can lead to more efficient working and safer outcomes e.g. children's services, head and neck services.

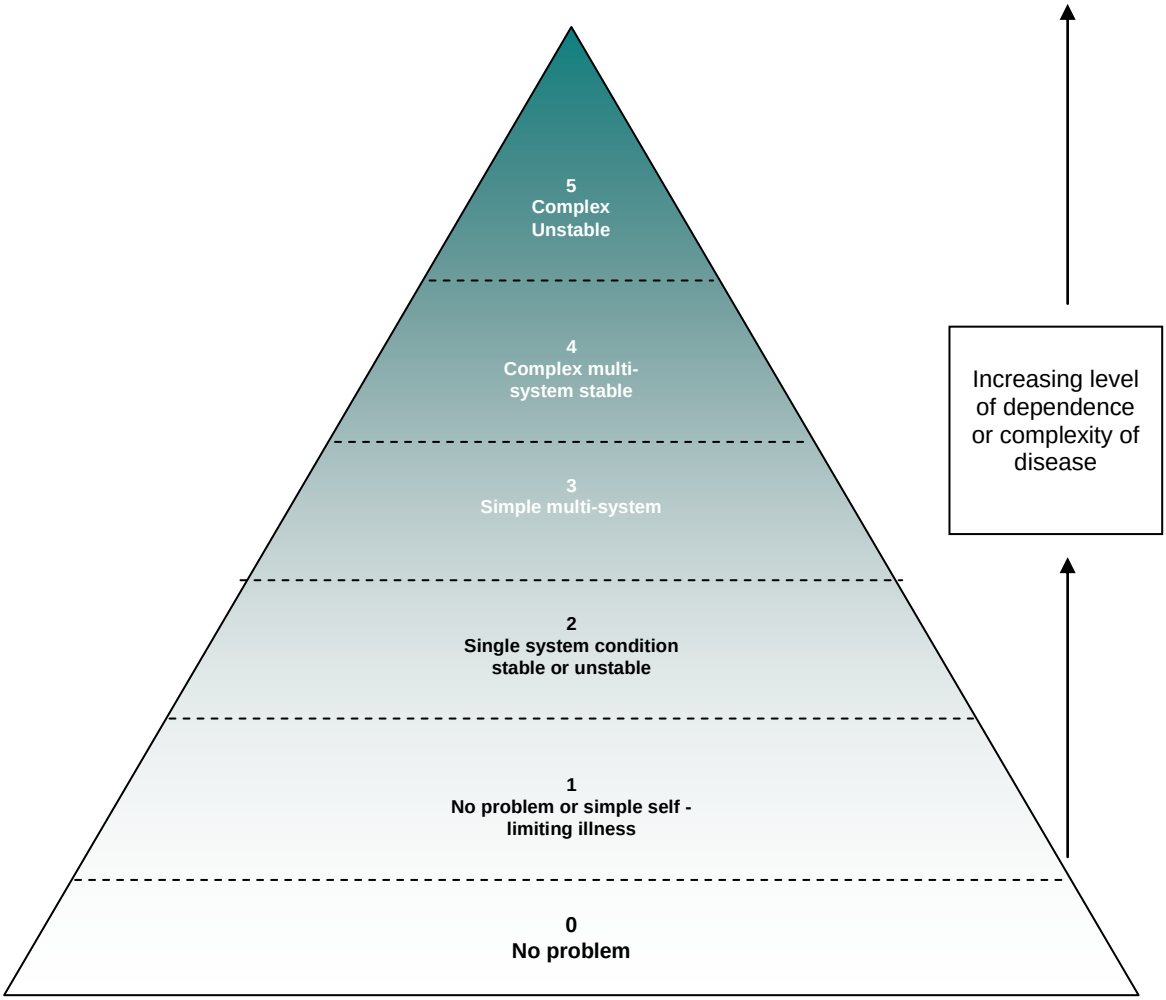
4.5 MAIN STREAMS OF PATIENTS

To develop the clinical model, patients who use the service have been categorised into main streams. This categorisation is used in the document to show how the main flows of patients, interact with the various elements of the overall health system.

The main categories of patients are illustrated in the diagram below and examples given in the subsequent table.

4.6 POPULATION PYRAMID OF HEALTH AND SOCIAL NEED

The pyramid represents the whole population. When an individual is located in the higher levels, it represents high need and high complexity of need. This does not necessarily represent greater demand on hospital service, but greater need of complex health, social and voluntary sector input. The examples in the table below illustrate where individuals may be placed, and how they move between levels.



	Overall Category	Description	Example
0	No problem	Person at risk of problem but with no current use of services.	Young smoker
1	Simple self limiting illness	Simple self limiting illness that leads patient into single system problem but then returns to full health	Acute appendicitis or simple chest infection (simple system condition until returns to full health)
2a/b	Single system condition – stable or unstable	2a – Single system problem. Need for long term supervision or acute complex short term input 2b – Single system problem that develops into a complex and/or multi-system problem	2a - Diabetes mellitus or myocardial infarction in the past. 2b) – Diabetic patient develops myocardial infarction, renal failure and acute heart failure (complex unstable), recovers from acute episode but continue with more complex needs (simple multi-system)
3	Simple multi-system conditions	Simple multi-system problem, high level of dependence and support needs. Surgery complex because of risks of infection and respiratory compromise but post surgery and rehabilitation is able to return to higher level of function.	Patient with COPD and osteoarthritis.
4	Complex multi-system stable	Complex multi-system stable. This situation can easily break down with changes in social situation or by acute infection leading to a complex unstable situation. Good communication of both health and social care networks are vital in these situations.	COPD, diabetes with dementia or mental health problems.
5	Complex unstable	Complex multi-system, possibly including social, patient requiring intensive multi-disciplinary / agency input. Usually a transient phase but requires rapid response to condition in all cases.	Patient with a medical or social crisis requiring immediate resolution such as by providing intensive support in a domiciliary placement, admission to acute hospital or care home.

4.7 MAIN SYSTEMS

4.7.1 Summary

The new health system in North Bristol and South Gloucestershire will comprise a number of services. These are not distinct and separate services but will overlap and work together. The services are listed below:

- A strengthened primary care system.
- An integrated re-ablement service including rehabilitation and intermediate care.
- A range of specialist teams combining hospital and community expertise.
- A comprehensive urgent care network.
- An emergency and acute assessment and treatment service.
- A strengthened critical care team.
- Flexible inpatient services.
- A systematic planned surgical service.
- A community based health and social children's service.
- Rapid response diagnostic services.
- Responsive Support Services.

4.8 A STRENGTHENED PRIMARY CARE SYSTEM

Primary care is the hub of the health care systems and is the main orchestrator of care for most patients. GPs in their role as practice based commissioners will play a significant role in determining effective and efficient pathways of care for their patients. They will be supported in taking a greater role than currently in the diagnosis and treatment of patients in community settings through ease of access to diagnostics and specialist opinions, and through enhanced locally based facilities.

The main features of the new strengthened primary care infrastructure in North Bristol and South Gloucestershire will be:

- Orchestration of care to co-ordinate patient care and treatment.
- Agreement and implementation of protocols and best practice standards.
- Full access to diagnostic facilities where investigation in the community is appropriate.
- Improved access to specialist opinions, diagnostics, intermediate care and support from specialist and hospital care.
- Shared care with co-operative working between hospital and primary care teams.
- Improved communication infrastructure including e-mail access to opinions and electronic test results.
- Enhanced development and training opportunities including development of practitioners with special interests (PwSI) roles.
- Appropriate hospital support to enable the care of long term conditions in primary care.
- Empowerment of patients including access to information and education services, expert patient programmes and direct access into services.

4.9 INTEGRATED RE-ABLEMENT SYSTEM

This service will combine community hospital nursing teams, therapy teams, social care teams and home and practice-based services, to provide joined up assessment, planning and delivery of care. The team will overlap with and have strong working relationships with primary health and social care services and improve the capacity of local services to maintain the independence of people with a range of health and social care problems. The service will have a range of beds in community hospitals which will be used for rehabilitation.

The service will have three main arms:

- An integrated community based assessment and case management team combining social and healthcare skills.
- A front-door reception and assessment function that will assess and prepare plans for patients arriving at the emergency and acute assessment service.
- A community hospital bed management team with a close relationship with the community based support service and other teams.

Key features of this service will be:

- Case management of patients coupled with clear care planning.
- A focus on building cohesive, well-led, multidisciplinary teams.
- A clinically appropriate pull through system orchestrated by the team with the emphasis on returning patient home following an inpatient episode.
- Community hospital beds run by the team with easy access to other services and close connection with the acute service.
- An arm of the team based by the front door of the hospital to redirect patients or to start care and recovery plans immediately from the point of admission.

4.10 A RANGE OF NETWORKED SPECIALIST TEAMS COMBINING HOSPITAL AND COMMUNITY EXPERTISE

The local population will be served by a series of specialist teams with a strong community focus whose function will be to provide a seamless and integrated service for patients from prevention and promotion through to intensive care and support. These teams will support the delivery of primary care services when specialist support is required and will improve the capacity of local services to manage populations of patients with specific conditions and maintain them at home where possible. This will include outpatient, inpatient and community services.

Key features of these teams will be:

- They combine primary care and hospital expertise to provide a single, comprehensive service for a patient population or specialty area (e.g. respiratory services to include consultants, physiotherapists, administrative staff, nurses, general practitioners with special interests (GPSI) and expert patients).
- Systemisation of the team activities so that a continuous service can be provided to patients in acute and community settings (eg one consultant dealing with acute problems whilst another covers consultations and advice with primary care whilst a third member of the team is on leave).
- Shared governance approach to individual patient care.

- Self management by the teams with the responsibility for delivery of services and adherence to targets (with incentives to deliver against targets) and the ability to control the care planning and treatment of patients from first point of contact with services.
- Rapid access to specialist expertise opinion when required.
- Multi-disciplinary team approach making best use of all the members of the team.
- A clinically appropriate pull through system orchestrated by the team with the emphasis on returning patient home following an inpatient episode.
- No-wait services and with protocol led access for all members of the multi-disciplinary team.
- Easy and informal access to specialists through e-mail etc.
- Empowered patients with enhanced advice and support.
- Protocols to govern patient pathways with full agreement from specialist teams and primary care teams.
- Adoption of case managers (nurses or therapists) to give patients under chronic care management direct access to support.

4.11 A COMPREHENSIVE URGENT CARE NETWORK

This primary care led system, which is closely linked to the emergency and acute assessment and treatment service will be accessed by patients on a 24 hour basis through the telephone (for example through ringing the practice, NHS Direct or 999) or through presentation at a minor injuries unit or walk in centre either in a community setting or on the main acute hospital site. A triage process will lead to assessment and treatment either at home, in an ambulance (for example by an emergency care practitioner), at a GP practice, the minor injuries unit or walk in centre. In the case of minor illness or injury once treated, the patient will return home. If triage highlights a major illness or injury then there would be direct access to the emergency and acute assessment and treatment service.

This service will incorporate out-of-hours GP teams and the network of facilities in other community health centres. The service will provide training opportunities for junior medical and other health staff and will construct these training programmes in tandem with the emergency and acute teams.

On the hospital site this service will give the main hospital a primary care front door providing the opportunity to re-route patients attending the main hospital into community services and to provide access into the main primary care system.

4.12 AN EMERGENCY AND ACUTE ASSESSMENT AND TREATMENT SERVICE

This service will include the A&E and acute assessment teams, and will provide a rapid decision-making and treatment service for patients with major illness or injuries. The team will have a primary focus of rerouting patients back to the community through rapid access to assessment, diagnosis and treatment and preventing inpatient admissions unless absolutely necessary. It will have a strong working relationship with the comprehensive urgent care network described above. It is anticipated that patients will not self refer to the service but will access it after triage, either through the ambulance service, the GP practice or the walk in centres or minor injuries units in the community or on the hospital site. The development of this team will give the specialist medical teams and the primary care team facilities where their patients can be assessed and treated in dedicated areas run by specialist staff.

The main features of the new service will be:

- A see and treat principle.
- A multi-disciplinary approach.
- Integrated working between the Emergency Department and Acute Assessment teas.
- Concentrated on processing patients and preventing admission into inpatient beds.
- Ability to hold patients until a clear decision is made.
- Ability to initiate the hospital based care pathway.
- Assessment and stabilisation of children prior to transfer.

4.13 A STRENGTHENED CRITICAL CARE TEAM

This team will have a central core of high intensity services. The team will run the critical care unit as well as providing outreach advice and support to other teams.

There will be three main groups of patients accommodated in the service:

- Level 3 patients (ventilated and/or in multi-organ failure).
- Level 2 physiologically unstable patients (single organ failure and/or 'stepping down' from higher levels of care).
- Level 2 physiologically stable but high-risk patients that need monitoring. Risk may be due to both the nature of surgery, and/or to patient co-morbidity.

The main principles of the new service are:

- Harmonisation of critical care services, including improved provision for the detection and early treatment of critically ill inpatients across all specialties.
- Networks of critical care provision; the new service will work in harmony with services at UHB and other nearby hospitals, and has a responsibility to provide its share of sector-wide level 3 bed requirements.
- Flexible, highly trained workforce; the service will rely on a pool of staff with elements of multi-skilling to enable the service to be resilient to change and to be able to absorb peaks and flows in demand.
- Leadership; the service will have a team of intensivists that will take responsibility for the overall clinical management of the unit.

4.14 A FLEXIBLE INPATIENT SERVICE

This service will be run as a single aggregated facility which is capable of providing patients with efficient and safe care, and has maximum flexibility. This service will be organised into units and clusters which recognise specialty adjacencies so that services are appropriately grouped together. The boundaries between these specialist areas will, however, be fluid in order to enable the resources to be used according to changes in demand.

The key features of the service are:

- There will be no ring-fencing of elective and emergency beds, in order to preserve maximum flexibility of use.
- A bed and theatre slot will be pre-booked for each patient.

- Patients admitted to an inpatient bed for an elective procedure (except patients requiring complex pre-operative treatment or stabilisation) will be allocated a bed after the procedure has taken place.
- Patients admitted to an inpatient bed as an emergency will have been stabilised and will have had initial diagnostics before admission to the inpatient facility.

Clinical teams will not 'own' beds except in the case of specialist services which are dependent on key adjacencies, equipment and facilities.

4.15 A SYSTEMATIC PLANNED SURGICAL SERVICE

There will be planned care services that will provide one-stop, assessment and treatment for the majority of elective work. These services will include:

- Rapid access services for minor and intermediate elective work with associated diagnostics.
- Whole-system complex surgery services based pre-planning and accelerated recovery techniques.

Key characteristics will be:

- Pooling of referrals into broad streams of work for the purpose of assessment and booking and treatment.
- Rapid access to assessment and booking of treatments.
- One-stop process for electives where appropriate i.e. diagnosis followed by immediate treatment.
- Health and social care pre-operative assessment in primary care with consenting and final confirmation of appropriateness for surgery undertaken in the acute setting.
- Systematic case-management of major electives including timely pre-assessment (mainly community based), check-back on all results pre-admission, management of follow-up pathways.
- Admission on the day of surgery except for those patients requiring complex pre-operative treatment or stabilisation.
- Organisation of reception and arrival, same-day in the majority of cases, through a theatre holding area.
- Responsiveness to technological advancements and maximising day case treatments and minimally invasive procedures wherever clinically appropriate.
- Fast-track recovery processes in dedicated unit with co-ordination of anaesthetic techniques and assertive recovery support.
- Enhanced home support pre and post admission from the surgical teams to supplement general primary care support.

4.16 RAPID RESPONSE DIAGNOSTIC SERVICES

The key characteristics of these services will be:

- Networks of provision across the locality structured to reflect economies of scale and local access. These networks will be developed in more detail as the service is designed and will need to be able to reflect Patient Choice.
- Access by patient need rather than requesting clinician or patient location.
- Rapid access and reporting matching capacity to demand.

- Digital imaging coupled with electronic ordering and access to reports.
- Spread of expertise to allow widening of process bottlenecks.
- Access to specialist advice on investigation to support appropriate use by primary care.
- Maximum use of telemedicine and latest technologies to allow decision-making at distance.

4.17 RESPONSIVE SUPPORT SERVICES

The new system will be backed-up by a range of responsive support services making the best use of modern technology and approaches.

There will be some general themes in the development including:

- Technology advancement including 'Connecting for Health' will continue and add real value to the clinical processes, enabling rapid change and improved efficiency.
- Process improvement, including but not restricted to the use of technology, will continue and add real value to the clinical processes.

4.18 PATIENT FLOWS THROUGH SYSTEMS

Detailed examples have been worked out, explaining how the patient experience will change according to the new health system. These examples are set out in Appendix 4.i.

4.19 THE SERVICE REDESIGN PROGRAMME

The NBT Service Redesign Programme was established to focus on whole system redesign; ensuring that short term service development targeted at performance improvement is interlinked with the longer term redesign programme to promote innovative care delivery and new ways of working to release bottlenecks and improve efficiency; therefore supporting the delivery of the Bristol Health Service Plan (BHSP) in its aim to redevelop and transform health services and facilities for the population of Bristol, North Somerset and South Gloucestershire (BNSSG) and the development of a new hospital at Southmead.

The vision for delivering high quality, safe and effective patient centred pathways of care will provide a systematic approach to care whilst ensuring value for money. This approach includes creating services and teams that run across traditional primary, secondary and social care boundaries. Successful delivery of this vision will ensure measurable and sustainable improvement in:

- Day case rates
- Hospital lengths of stay
- Morbidity levels
- Hospital admissions
- Outpatient appointments (New to Review / follow-ups)
- Waiting lists and queues
- Referral to treatment time
- Re-admission rates
- Proportion of planned admissions
- Patient satisfaction
- Staff satisfaction
- Overall reduction in cost

The organisational arrangement for delivering wholesale change across patient pathways and patient management systems was through the establishment of a Programme Cluster Board, with senior membership incorporating North Bristol Trust (NBT), Primary Care Trusts (PCT), Strategic Health Authority (SHA) and University representation. However, as the Service Design Programme (SDP) established within Primary Care has progressed, it become evident that parallel working is occurring, with increasing demand for clinical and managerial representation. Therefore, in response, NBT has dissolved the Cluster Board and implemented an internal organisational structure which will support and drive Service Improvement and Innovation within the Trust and across healthcare boundaries to support the PCT agenda and Service Design Programme (SDP).

The plan for the overall programme of care will be to focus on the entire patient pathway, working across all system boundaries and treatment modalities from primary care through secondary care and back to primary care, as well as ensuring effective patient management systems are in place to support the delivery of the clinical patient pathway. Audit and monitoring efficiency will need to be enhanced through the delivery of key performance indicators (KPIs).

These models are being jointly developed, working in partnership with the local health community, taking account of local health needs, clinical evidence base and national good practice. Memberships of the redesign groups include acute clinicians, primary care clinicians, commissioners, general management, finance, information staff and patient representatives. Other agencies, such as Social Services providers have been invited to participate in the relevant pathways.

The service redesign work is complementary to other project work being carried out across the BHSP, including service improvement, transfer and/or centralisation of services. Examples of these are:

- 18 week referral to treatment
- Day case & Endoscopy redesign
- Paediatric transfer
- ENT centralisation
- Urology centralisation
- Diabetes service redesign
- Elective orthopaedic capacity
- Colorectal / Upper GI changes
- Trauma centralisation
- Respiratory move & medical ward closure
- Breast surgery centralisation

The aim of the initial phase of redesign work is to agree and deliver a clinical model of care for each prioritised work stream, supported by an implementation plan with key performance indicators. The current work streams include:

- Simple Elective Surgery
- Orthopaedics
- Stroke Care (including Transient Ischaemic Attacks (TIAs))
- Rehabilitation

These work streams cross boundary and specialty care delivery, and have strands of generic service improvement as cross cutting themes; an example of this would be the 18 week referral to treatment target.
Underpinning the delivery of a redesigned programme of care is the need for long term workforce planning and development, closely linked to performance management, appraisals, staff skills & competence and commissioning of education & training packages.

4.19.1 NBT Service Redesign Organisational Structure (See Appendix 4.ii)

The function of the NBT Service Redesign Programme Board (SRPB) is to support the NBT Clinical Lead and Head of Service Improvement, in the delivery of the overall programme of care, to prioritise and agree the key areas for innovation, redesign and development; managing by exception, monitoring via reports and controlling through a number of decision points.

Membership for the SRPB incorporates senior clinical and managerial representation from within NBT who collectively and individually have a vested interest in the successful delivery of new models of care to ensure the delivery of a short, medium and long-term patient centred programme of care. The Programme Board will in turn report to the Trust Management Team (TMT), and a member of NBT's Programme Board will also sit on the equivalent BNSSG Service Design Programme Board to ensure cohesive, collaborative community partnership working to support the delivery of the BHSP across Bristol.

The SRPB will be directly associated with clinical and operational management as well as organisational and workforce development. Through the programme of care, NBT will demonstrate its commitment to improving services and meeting the needs of local people more fully and effectively. The Trust will explore and develop fresh approaches to the delivery of how, when and where care is available. The process will be shaped by a determination to build on earlier and ongoing initiatives, to apply any lessons learned; alongside a commitment to working closely with service users, their carers, commissioners and stakeholders in the wider health and social care community. Ensuring the programme of care is based on a shared vision for better services. The specific model to emerge from the proposed healthcare programme for the delivery of acute hospital care will be strongly influenced by the leadership and engagement of NBT clinicians and practitioners.

Successful delivery of NBT's Service Redesign Programme will fall to the Head of Service Improvement who will be responsible for the overall co-ordination of the interlinking projects and work streams; ensuring a cost conscious approach is adopted throughout. It is essential that cross cutting operational projects, such as the 18 week Referral to treatment targets (RTT) and Safer Patient Initiative (SPI) are closely linked and monitored.

The day to day planning and development of the individual patient pathways will be dependant on the collaborative working relationship of a Service Redesign Lead and Clinical Lead. Together they will be responsible for liaising within and outside the Directorates, linking closely with the respective BNSSG work stream(s), to explore current practice, challenge historical working and deliver innovative solutions to patient centred care, whilst embracing new roles and new ways of working. To ensure sustainability each project will focus on a patient pathway or bundle (inter-related pathways, e.g. Stroke Care and Transient Ischaemic Attacks [TIA]).

The dedicated Service Redesign Lead will be directly responsible for the day to day planning of specific project(s); developing strong, influential relationships within the Trust and beyond, working closely with clinical staff and management using influencing and facilitation skills to inspire and engage them in service innovation and improvement, to approach the delivery of care differently. Whilst the Clinical Lead will be responsible for providing expert clinical leadership, to advise and act as a 'champion' of change to promote a long term change in culture, service planning and service delivery.

Within each individual patient pathway it is assumed there will be multiple interlinking streams of work, these will need to be managed collaboratively across the organisation and BHSP when and where they converge. The Redesign Lead(s) will also need to link directly with the relevant BNSSG work streams, attending community design meetings to ensure joined up working and avoid silo or parallel working.

The consistent approach to the development of each redesign work stream will ensure the overall process is structured to fit within the main areas of the clinical model; whilst the methodology adopts a patient pathway approach, by examining the whole system from the point of view of the patient.

Key products of this approach include:

- Review of current patient pathways to try and identify key blockages through process mapping and patient experiences.
- Benchmarking of current practice against best practice.
- Use of accepted best practice, national guidelines and local thinking to produce a clear description of proposed patient pathways.
- A service specific model of care to deliver the vision/strategy as agreed within the Trust and across Bristol.
- Linkages with the BNSSG service design process.

The overall service redesign process follows a number of steps, as outlined in Appendix 4.iii. The approach taken to each of the care pathways follows the example set out in the box below:

Stroke Care – A Working Example

Using Stroke Care as an example of the development of the Service Redesign work (to date), the following steps were taken:

- Stroke care was identified as a priority for service redesign in line with national (Darzi Report) and strategic objectives to maximise the impact on improving long term patient outcomes, quality and value of care.

- The service Redesign Lead undertook a literature review to incorporate recognised evidence in evaluating the preferred pathway for acute stroke pathway management, which included:

    - Adams H, et al (2005), *Guidelines for the early management of patients with ischaemic stroke: 2005 guidelines update a scientific statement from the Stroke Council of the American Heart Association/American Stroke Association*. Stroke; 36:4,916-921
    - Brous E, (2005), *A patient with an undetected evolving stroke: legal lessons learnt.* Journal of Emergency Nursing; 31: 6, 580-582
    - Darzi Lord, (2008), *High Quality Care for All: NHS Next Stage Review; Final Report.* DH, London
    - Department of Health (2003), *The National Service Framework for Older People: Supporting Implementation – What makes a good stroke service and how do we get there?* DH, London
    - Department of Health (2007), *National Stroke Strategy*. DH, London

  - Harbison J, et al, (2003), *Diagnostic accuracy of stroke referrals from primary care, emergency room physicians and ambulance staff using the face, arm, speech test.* Stroke; 34:71-76
  - Lindsberg, PJ et al, (2006), *Door to thrombolysis: ER reorganisation and reduced delays to acute stroke treatment.* Neurology; 67: 2, 334-336
  - National Audit Office (2005), *Reducing Brain Damage: Faster Access to Better Stroke Care (HC 452 Session 2005-2006).* DH London
  - NHS Changing Workforce Programme (2003), *New ways of working in stroke care*. DH, London
  - NHS Institute for Innovation & improvement (2007), *Delivering Quality & Value, Focus on: Acute Stroke*
  - NICE Clinical Guideline 68, (2008), *Stroke: Diagnosis and initial management of acute stroke and transient ischaemic attack (TIA)*. National Institute for Clinical Excellence, London. http://www.nice.org.uk/nicemedia/pdf/CG68NICEGuideline.pdf
  - Pre-hospital Stroke Guidelines Group and the Intercollegiate Stroke Working Party (2004), *Recognition and Emergency Management of Suspected Stroke and TIA (Guideline).* London. Royal College of Physicians
  - Wardlaw JM, et al (2004), *Immediate computed tomography scanning of acute stroke is cost effective and improves quality of life.* Stroke; 35: 11, 2477-2483
  - Youman P, et al, (2003), *The economic burden of stroke in the United Kingdom.* Pharmacoeconomics; 21: Supp 1, 43-50

- Met with clinical champion to discuss proposed future stroke services.

- Process mapping event held (June 2007) to map and understand current service provision.

- Demand and capacity analysis reviewed to evaluate number of patients/year who receive thrombolysis and average length of stay.

- Workforce analysis to identify current skills and competence.

- Benchmarked against best practice.

- Stakeholder engagement and the setting up of a Steering Group, which included:

  - Clinicians (Stroke Consultant, ED Consultant, Neuro Surgeon, Neuro Radiologist)
  - Managerial support
  - Primary Care
  - Patient & Carer involvement
  - Social Services
  - Ambulance Service
  - Allied Health Professionals

- Proposed pathway mapped (x3 stages identified):

  - Phase 1 – Acute Stroke Stage - From onset of symptoms through first 72 hours
  - Phase 2 – Rehabilitation – 72 hours to discharge
  - Phase 3 – Long term Rehabilitation – From discharge and beyond

- Point Prevalence Audit undertaken to understand what percentage of patients could be discharged earlier with supported community care.

- Model of care agreed.
- Strategic engagement sought to agree model of care (PCT's, Stroke Network, BNSSG).
- Project management commenced:
    - General Manager tasked with detailing an Implementation Plan
    - Sub-clinical group established to manage collegiate relationships between Neurosciences and Medicine to deliver the Model of Care
    - Detailed patient & carer involvement through the use of focus groups to determine acute care delivery, patient and carer education/information and rehabilitation needs

More detailed information about the care pathways is set out in the sections below.

4.20 SIMPLE ELECTIVE SURGERY (APPENDIX 4.iv)

The overall aim has been to develop whole system, planned care to deliver an efficient, patient centred, 'one-stop' assessment and treatment pathway, for patients requiring elective day surgery and/or short stay care, up to 72 hours. These are patients considered a low anaesthetic risk (ASA category 1 & 2 and stable category 3). This approach to care will support the national referral to treatment target.
The key features of this pathway focus on efficient throughput, maximum outcomes from each visit yet minimising the number of attendances to improve the patient's overall experience and ensuring minimal lengths of hospital stay. With the development of the clinical model, the agreed pathway will need to incorporate all surgical specialties, and cross health care boundaries.

4.20.1 Step One – Patient Attends General Practice

This step commences at the initial point of contact with the patient seeking medical advice from their General Practitioner (GP), who will be supported in taking a greater role in the diagnosis, preparation and treatment of patients; through ease of access to diagnostics, specialist opinions and through locally based facilities. The GP will be able to access diagnostic testing and results (through agreed protocols and guidance), to deliver earlier and more local diagnosis, eliminating unnecessary hospital visits. If necessary, the GP will then be able to directly refer the patient for a specific condition egg: direct listing for hernia repair (Appendix 4.v), or advance the patient through to Step Two for a specialist opinion, where the GP will be able to book an outpatient appointment directly. Support, advice and guidance, in preparation for possible surgery will commence in primary care to ensure the patient is fully informed and engaged in their care.

4.20.2 Step Two - Patient Attends Specialist Outpatient Appointment

The outpatient appointment will act as a 'one stop' experience for the patient, to include a specialist assessment, additional diagnostics (if required) and pre-operative assessment (if required); enabling the patient to leave secondary care with an operation date. An example of this is the gallstone pathway, (Appendix 4. vi).

4.20.3 Step Three – Admission and Surgery

Specifically focuses on stream lining the patient's surgical experience from arrival through to operation and recovery.

4.20.4 Step Four – Post Operative Care, Discharge and Follow-up

This stage of the patient's pathway focuses on delivering an efficient, nurse-led discharge process – either to the patient's place of care or to a clinical environment; supported by proactive post operative nausea and pain management, discharge instructions and real time discharge summaries readily available for the GP.

This cohort of patients will default to no outpatient follow-up, unless the consultant surgeon specifically requests an appointment. (A clear rationale will be required for the variance).

4.20.5 Implementation – See Figure 1

The Simple Surgery model of care has been agreed and commissioned for patients considered a low anaesthetic risk across BNSSG. This model of care supports the development of internal and external processes to streamline the patient pathway.

The approach to implementation of the pathway has varied across surgical specialties, as highlighted in Figure 1, with recognition that the current clinical directorate structure within NBT does not easily lend itself to implementing a pathway which incorporates several generic strands of work with cross cutting service improvement themes.

Figure 1 - Implementation Summary

Work stream	**Service Improvement**
Simple Elective Surgery	• GP engagement across BNSSG through locality meetings • Centralised line management of surgical pre-operative assessment • Development of pre-operative assessment pathway • Appointment of pre-operative assessment Matron • Working towards a centralised, nurse-led service, with direct access to anaesthetic support • Agreeing a consistent approach to clinical assessment and diagnostic protocols • Development of standardised documentation and referral processes supported by protocols & guidelines Trust wide • Developing a stream-lined pathway to facilitate delivery of pre-operative assessment at the point of outpatient assessment, to ensure the patient is fit to be added to the waiting list • Exploring opportunities to develop a service responsive to patient needs, to deliver pre-operative assessment in the community, linked to optimising patient preparation for surgery through education classes, nutrition, exercise and equipment aides • Promoting theatre efficiency through the development of single procedure operating lists in ENT • Development of direct GP listing for hernia repairs (under general or local anaesthetic) – See Appendix 4.v • Development of a one stop clinic for patients with gall stones, to facilitate a specialist appointment with diagnostics, test results and an information pack about treatment with a contact number to book a suitable operation date – See Appendix 4.vi • Simple Surgery Pathway linked to developing community service priorities and Elective Care service design • Simple Surgery Pathway agreed and to be commissioned by Bristol PCT
Orthopaedics (Led by SGPCT)	• Developing a model of care to ensure patients are fit to be referred from primary care for surgery • Pilot to test advice and guidance technology • Development of primary care led pre-operative preparation & support, including MRSA swabs, BMI • Developing direct GP access for diagnostics • Surgical threshold policy for knee arthroscopy • Patient pathway for osteoarthritis of knee • Patient pathway for soft tissue injury of knee, (spanning GP, musculoskeletal interface & secondary care) • Integrated hand service - Single model of care for BNSSG

4.21 STROKE CARE

Stroke is the third highest cause of death and most common cause of disability in the UK, with approximately 2,200 strokes in Bristol and Weston each year. With an effective, dedicated stroke unit it is possible to reduce death and long term disability by 29%.

Therefore, the objective for the Stroke Redesign Group has been to develop models of care which deliver high quality, responsive and effective pathways to ensure access (24/7) to acute services with aggressive intervention. Aiming to reduce the number of patients with long term disabilities and support a reduction in the overall length of stay. Models of care developed to date include:

- Transient Ischaemic Attack (TIA) – See Appendix 4.vii
- Stroke (Part 1 of 3) – From onset to first 72 hrs – See Appendix 4.viii
- Stroke (Part 2 of 2) – 72 hrs to Discharge – See Appendix 4.ix

- Stroke (Part 3 of 3) - Discharge & beyond – See Appendix 4.x

Membership for the redesign programme was established with good patient, carer and public representation. The vision for the clinical model was based on the national model of care, with key areas for pathway development being identified through the Cardiac and Stroke Network. Account was taken of the need for access to acute interventional management, including thrombolysis 24/7, a reduction in protocol variance, improved clinic efficiency, a review of the bed base and a reduction in length of stay with agreed key performance indicators to measure improvement in service delivery.

With the development of the stroke clinical model, the patient pathway was split into three distinct steps:

4.21.1 Transient Ischaemic Attack (TIA) – See Appendix 4.vii

TIAs are often a warning sign preceding a full stroke, so rapid access for appropriate assessment and management is imperative. The TIA pathway delivers an efficient, patient-centred one-stop clinic with early assessment, rapid triage and direct access to diagnostics, consultation and management.

4.21.2 Stroke - Step One – Onset to 72 hours – See Appendix 4.viii

The agreed pathway focuses on the most acute part of the patient's experience, from onset of symptoms through the first 72 hours; being profoundly aware that the window for acute management is just three hours from onset of symptoms. During this time frame the patient needs to get to hospital, be triaged, assessed and access CT imaging for a definitive diagnosis of ischaemic stroke or haemorrhagic stroke. If the first three hours are not managed appropriately the patient will not be eligible for treatment which will result in reduced outcomes for the individual.

Rapid access to hospital with a dedicated stroke unit is paramount, supported by ambulance personnel capable of pre-hospital stroke assessment (FAST score), with timely and rapid access to diagnostics on arrival to secondary care, maximising the use of the three hour window for assessment, diagnostics, clinical decision making and treatment.

The long term vision and model of care for the acute stroke pathway focuses on developing a unit which supports the highly acute management of patients with either an ischaemic or haemorrhagic cerebral event, using the most up to date treatments and invasive techniques supported by neuro radiology (these patients are currently managed across two directorates, medicine and neurosciences respectively). The advantages to this approach will optimise patient outcomes, medical management and research, rehabilitation and staff development to deliver a centralised hyper acute stroke service supported by neuro-radiology and neurosurgery, in line with the Darzi Model of Care.

4.21.3 Stroke - Step Two – 72 Hours to Discharge – See Appendix 4.ix

Part two of the agreed stroke pathway focuses on rehabilitation, where patients are broadly categorised into three groups:

Group 1:	Patients who are ambulant, make a good or reasonable recovery and are fit for discharge with rehabilitation support in the community, as required.
Group 2:	Patients who require intensive, specialist stroke rehabilitation needs – a significant number of these patients will also be medically unstable with complex care and discharge needs requiring multi-professional input. The most suitable environment for delivering rehabilitation care will potentially vary according to the needs of the individual patient.
Group 3:	Patients with a poor prognosis - requiring control of symptoms and/or palliative care.

4.21.4 Step 3 – Discharge and Beyond – See Appendix 4x

This work is in progress and focuses on the long term needs of the patient (and carers) once they are discharged to their home environment. Recognition is given to the small cohort of patients who will require intense, long term physical, emotional and psychological rehabilitation through to the larger cohort of patients who may have a degree of independence but will equally require long term support.

At the request of carers, development of a dedicated stroke carer's pathway from onset of symptoms has commenced.

4.21.5 Implementation – See Figure 2

Having developed an agreed model of care for the acute phase of the stroke patients pathway there are opportunities to work towards the development and delivery of the Darzi model of care, with intercollegiate working between stroke physicians, neuro radiologists and neuro surgeons, to deliver stroke care in a state of the art neurovascular unit.

Figure 2 - Implementation Summary

Work stream	Service Improvement
Stroke Care (Incl. TIA)	• Implemented a one stop Transient Ischaemic Attack (TIA) patient pathway to facilitate rapid triage, direct access to diagnostics, consultation & management • Developed an acute stroke model of care for the first 72 hours which supports the Darzi model for service delivery • Collaborative working with Great Western Ambulance Service to use (FAST) stroke scoring tool pre-arrival to Emergency • Direct access to CT imaging 24/7 • Evaluating the role of a neurovascular unit to support the acute care phase for patients with stroke and sub-arachnoid haemorrhage • Access to thrombolysis Monday – Friday, 9am-5pm (aiming to expand & develop a 24/7 service) • Developed an integrated stroke model of care for 72 hours and beyond • Completed a point prevalence audit to evaluate the number of potential patients suitable for early supported discharge based on further development for supported self care at home • Developing a stroke rehabilitation model of care for discharge and beyond • Acute Stroke Unit based at Frenchay • Stroke Rehabilitation Unit based at Southmead

4.22 REHABILITATION

Recognising that rehabilitation involves high volume patient numbers across several patient groups, the purpose of the Rehabilitation Redesign Programme was to focus on developing a 'whole systems approach' to re-enablement supporting effective discharge and transfer of care.

The aim has been to agree a single coherent model of care which puts the individual at the centre of service provision and responds to their needs whilst recognising the contribution and inter-dependency of all agency partners to ensure that patients and their carers do not experience gaps, unnecessary waits or duplication in provision.

To inform the model of care a point prevalence study was undertaken in ortho-geriatrics, frail elderly and stroke. Conclusions from these audits has informed opportunities for the development of the model of care, which will now be taken forward.

4.22.1 Implementation

Figure 3 - Implementation Summary

Work stream	Service Improvement
Rehabilitation	• Developing a rehabilitation model of care for discharge and beyond • Undertaken a point prevalence audit (in Medicine, Stroke & Ortho-geriatrics) to evaluate the number of potential patients suitable for early supported discharge based on further development for supported self care at home

4.23 COMMUNITY

Working in collaboration with primary care leads to develop networked community facilities; including minor illness units, outpatient clinics, diagnostics and the development of new services; commencing with Yate and Kingswood. A proposed pathway of care was developed and provisionally agreed (Appendix 4.xi).

4.24 WORKFORCE IMPLICATIONS

The impact of demographics, national drivers, changes in employment law, the acuity of patients and the location of future care delivery will have a significant impact on the workforce of the future.

It is anticipated that the overall ratio of staff will accommodate a higher percentage of unregistered staff, who will be required to deliver care supported by a range of generic skills and competencies; whilst the registered workforce will need to be more highly skilled, responsible for the management, co-ordination and delivery of specialist patient care and education, undertaking expanded roles and capable of autonomous working. To support the proposed patient pathways, examples of innovative working and workforce development could include:

- **Technological Innovation**
  Stream lined administrational processes, with direct access to diagnostics and direct listing for outpatient appointments and procedures, across primary and secondary care.
- **Nurse/AHP Led Services**
  A team of staff capable of clinical decision reasoning, able to work autonomously and across health care boundaries, to deliver care closer to the patient's home, commencing at the initial point of contact in the community supported by direct access to diagnostic tools – capable of supporting an individual patient pathway to deliver care across healthcare boundaries, into secondary care and back to primary care.
- **New Ways of Working**
  Develop services which commence in the patient's homes prior to admission to hospital, facilitating assessment of the patient's environment, installation of aids and the opportunity to conduct a robust social care assessment in preparation for discharge.
- **Expansion of Roles**
  Looking at how and where staff currently deliver care and expand their role according to the patients needs and changes in organisational delivery of care. An example of this could be in surgery, where a higher percentage of patients will be directly admitted to hospital on the day of surgery. Therefore, staff who are currently responsible for post-operative (recovery) care could be developed to manage the patient's surgical experience from arrival to recovery and discharge from the operating suite (either to their home or a clinical environment), with direct access to outpatient appointments to book follow-up appointments, if/when required.
- **New Services**
  Development of a surgical helpline 24/7 would support patients on discharge, aimed at delivering a responsive quality service, to assist with queries and the ability to fast track patients to a specialist clinic when required. To ensure this service is managed well, it would need to be delivered by appropriately qualified and experienced clinical staff, readily available via switchboard / bleep.
- **New Roles**
  Nurse/AHP or GP led clinics could be developed to manage one-stop specialty clinics, post discharge management and follow-up appointments, delivered in the acute hospital and/or community facilities, supported by Consultants.
  The role of health and education for stroke services across the community, needs to be managed and co-ordinated to improve patients overall outcomes. This could be addressed through the introduction of a community stroke co-ordinator, who would be responsible for educating healthcare staff, (including NHS Direct, GP's and their practice staff) and co-ordinating support services for patients and their carers to include close liaison with voluntary agencies on discharge.

The overall management of these pathways will need to be measured and monitored using key performance indicators to deliver improved outcomes for the individual and the organisation.

4.25 CONCLUSION

Overall, the new clinical model for health services in North Bristol and South Gloucestershire will provide a far more systematic approach to care. This approach will include services and teams constructed around patient pathways and that will run across traditional primary, secondary and social care boundaries. The clinical model involves changes to the way care is currently provided, releasing bottlenecks and improving efficiency through the use of technologies to support the care that is provided.

There is a strong focus on caring for patients as close to their homes as possible where clinically appropriate and on using a case management approach to ensuring that the general health of our patients is regularly reviewed and managed and the whole patient journey is carefully managed through the health and social care system.

Detailed work is already in hand to translate the principles and model of care into detailed care pathways. This work will be extended and continued as the developments set out in the BHSP become a reality.

SECTION 5: ACTIVITY AND CAPACITY

5.1 INTRODUCTION

This section describes how the future demand for health services in North Bristol and South Gloucestershire which will be met by the acute and community hospital proposals for Southmead and Frenchay. It takes account of the new model of care set out in the previous section and identifies the capacity requirements for the future taking account of this new model of care, projected demand and performance improvements.

It builds on and updates the very detailed activity and capacity analysis which was developed across the health community and underpinned the OBC.

The section:

- Describes the key factors affecting the level of future demand by considering population growth, historical growth in activity and initiatives to provide alternatives to acute care.
- Discusses the key factors affecting the capacity required in the future to meet this demand, including the impact of transfers to community health facilities, to the independent sector and between acute trusts
- Explains the resultant assessment of the capacity required in the new acute and community hospitals on the Southmead site.

5.2 DEMAND GROWTH

5.2.1 Population Growth

The Bristol, North Somerset and South Gloucestershire health community has a population of around 870,000.

The population for the NBT catchment within BNSSG is projected to increase from 418,000 to 439,000 during the 6 year period 2007/8 to 2013/14 (5.1%). The age weighted population (taking account of higher health needs of elderly people) is projected to increase by 7.1% over the same period. This is an annual increase of 1.2%, which is 0.3% per annum greater than 0.9% annual increase projected in the OBC. The projected annual increase over the subsequent five year period from 2013 to 2018 is slightly lower at 1.1% per annum.

Table 5.2.1i below shows these projected annual weighted percentage increases in population by PCT as well as for the Trust's overall catchment area. This shows that the population of South Gloucestershire and North Somerset is increasing faster than that of the Bristol city area. Appendix 5.i shows the detail of the population projections by PCT area.

Table 5.2.1i Projected annual growth in weighted population

	OBC Annualised weighted pop'n growth projections %	Appointment Business Case Latest annualised weighted population growth projections %	
	2004 to 2013	2007 to 2013	2013 to 2018
Bristol	0.3	0.6	0.6
South Glos	1.3	1.5	1.3
North Somerset	1.3	1.6	1.5
Total BNSSG	0.9	1.2	1.1
Other PCTs	0.9	1.2	1.1
Total	0.9	1.2	1.1

NBT also provides services outside the BNSSG catchment area. These are predominantly tertiary services, but also include a small amount of secondary care services to the population immediately outside BNSSG (within Somerset, Wiltshire and Gloucestershire). The tertiary services provided are predominantly neurosciences, renal and burns. Their catchment populations vary from around 1.5 million for the core renal service through to 2.5 million for core neurosurgery. Some individual sub-specialty areas have very wide catchment areas populations. Approximately 5% of activity is from outside BNSSG and accounts for 24% of PCT income. The overall growth in population of PCTs outside BNSSG is assumed to be equivalent to that of the BNSSG area.

5.2.2 Demand Growth

The base year is activity planned to be undertaken in 2008/9. Growth projections from 2009/10 onwards build on the work done at OBC stage and take account of:

- The population projections above (showing higher growth than assessed in the OBC).
- Historical growth trends assessed by BNSSG PCTs as averaging approximately 2% per annum (before reflecting the increased level of demand management initiatives more recently).
- Local clinical knowledge regarding differentials between different specialties in the likely demand growth going forward.
- Potential for demand to be managed in other settings (other than the transfer of care to community hospitals which is assessed separately below).
- Elimination of non-recurring activity as waiting times stabilise at lower levels.

The resulting annual percentage demand changes are summarised in Table 5.2.2i below, and shown by specialty in Appendix 5.ii for inpatient cases. Outpatient growth is assumed to be consistent across specialties.

Table 5.2.2i Projected annual percentage demand changes

	Annual percentage growth						
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 to 2018/19	2018/19 to 2023/24
Electives inpatients and daycases	-1.66%	1.52%	1.56%	1.59%	1.63%	1.8%	1.9%
Non elective cases	1.03%	1.04%	1.37%	1.38%	1.39%	1.6%	1.7%
New outpatient attendances	-5.6%	-4.0%	1.5%	1.5%	1.5%	1.5%	1.2%

The base activity in 2008/9 and the resulting activity in 2013/14 after projected growth, and then in 2018/19 and 2023/24, are summarised in Tables 5.2.2ii and 5.2.2iii below and shown in detail by specialty in Appendices 5.iii and 5.iv.

Table 5.2.2.ii Projected growth in inpatient and day case demand 2008/09 to 2023/24

	2008/9 planned activity	**Adjusted annual historical growth to 2013/14 net of alternatives to acute care**	**2013/14 projected activity before transfers**	**2018/19 projected activity before transfers**	**2023-24 projected activity before transfers**
Elective IP/DC	53926	0.9%	56452	61508	67552
Non Elective IP	44719	1.3%	47571	51080	55023
Total IP activity	98645	1.1%	104023	112588	122575

Table 5.2.2.iii Projected growth in outpatient demand 2008/09 to 2023/24

	2008/9 planned activity	**Adjusted annual historical growth to 2013/14 net of alternatives to acute care**	**2013/14 projected activity before transfers**	**2018/19 projected activity before transfers**	**2023-24 projected activity before transfers**
New OP appts	89735	1.1%	94693	102011	109895
Follow Up OP appts	217481	-1.1%	205967	221885	239033
Total OP appts	307216	-0.4%	300660	323896	348928

5.3 TRANSFERS

Having assessed the level of growth in activity, the impact of transfers of activity between different providers is assessed in this section.

5.3.1 Acute Service Reconfiguration within the Bristol Health Services Plan (BHSP)

The Trust's assumptions on the transfer of services between acute trusts previously identified within the BHSP that have either taken place or are due to take place between 2008/9 and 2013/14 are summarised below.

- ENT inpatients and daycases transferring from UBHT to NBT (planned transfer in 2008/09). In the OBC this was assumed to include OMF cases as well as ENT cases, but in light of the current uncertainty around this service transfer, a move of OMF is currently not modelled in.
- Inpatient breast surgery services. In view of the review of the future configuration of breast cancer services, we have on PCT advice not assumed a transfer in either direction in this ABC pending the completion of the review.
- Inpatient and daycase general paediatric services transferring from NBT to UBHT. This transfer has already been made (in 2007/8).
- Inpatient, daycase and outpatient specialist paediatric services (excluding outpatient cleft services) are assumed to transfer from NBT to UBHT in 2012/13.
- Inpatient and daycase interventional cardiology services being provided by both NBT and UBHT for their local populations (currently provided by just UBHT) (2007/08). This transfer has already been made and is reflected in the 2008/9 planned activity.
- North Somerset PCT is current considering whether a transfer of non-elective care from Bristol hospitals to the Weston hospital would be beneficial and practically achievable for patients residing in certain postcode areas between Bristol and Weston such as Nailsea and Portishead. A review is underway and has not yet reached a conclusion. The PCTs modelling indicates a maximum transfer from NBT if all relevant non-elective treatment was switched to Weston, of 18 beds. NBT is not convinced that a significant service transfer is likely, and has not incorporated it into its base capacity model. However, it is included in the sensitivity analysis in section 5.7.

5.3.2 Transfers to Independent Sector

An Independent Sector Treatment Centre is planned in the Emersons Green area of South Gloucestershire. Subject to Full Business Case approval, financial close is expected in the near future, with building completion and commencement of services towards the end of 2009/10.

The Trust is not yet aware of the exact casemix of the ISTC, but based on earlier information has modelled a loss of 4701 elective spells, 8089 new outpatient attendances and 15301 follow-up outpatient attendances at 2013/14, based on a loss of around 50% of the current simple elective cases within the casemix assumed to be provided by the ISTC. This is broadly in line with PCT assumptions on the likely transfer.

5.3.3 Acute Flows Transfers

The decision to move to a single acute hospital in the North Bristol/South Gloucestershire area on the Southmead site will result in a flow of non-elective patients to other acute Trusts in the area in specialties being provided by all trusts; specifically non-elective general medicine, trauma and general surgery. This is due to the fact that for some of these patients currently being treated at Frenchay, hospitals other than Southmead would provide better access on the closure of Frenchay.

A piece of work was previously undertaken by the Avon Information Management and Technology Consortium (AIMTC), which assessed this likely flow to other acute hospitals. This work has been applied as follows to update the assessment of the likely transfer:

- The assessed percentage losses of NBT cases in the three specialties was taken as the start point.

- These percentage losses are then reduced to take account of the loss that has already resulted from the closure of the Southmead Emergency Department to majors (becoming a minor injury unit). The original AIMTC modelling pre-dated the closure of the Southmead ED to majors.
- The adjusted percentage losses are applied to the projected pre-transfer spells in the relevant specialties in 2013/14.

5.3.4 Specialist Cases and Catchment Area

There is an expectation that the level of specialised work flowing to NBT will increase as specialist commissioning becomes more prevalent and the number of centres accredited to provide services such as neurosurgery, plastics and burns, neurology and renal medicine will reduce over the coming years, and in certain areas demand increases over and above the level of the general activity increases projected in section 5.2.2. This includes the potential for certain areas of specialist work undertaken at the RUH Bath to transfer to NBT. The overall estimated inflow is 531 spells, and is detailed in Appendix 5.v.

5.3.5 Total Acute Transfers

The total acute transfers described in sections 5.3.1 to 5.3.4 above are summarised in Table 5.3.5.i, and compared to the transfers estimated at OBC stage.

Table: 5.3.5.i – Acute service transfers

Elective Inpatients & Daycases						
Spells	**2013-14 Projected Activity Before Transfers**	**ENT Transfers**	**Specialist Paed Transfers**	**Acute Flow Transfers**	**ISTC Transfers**	**2013-14 Projected Activity After Transfers**
General Surgery	7,229		-4		-1,086	6,139
Urology	9,402		-27		-725	8,650
Trauma & Orthopaedics	8,088		-150		-1,330	6,608
ENT	1,672	797	-312		-495	1,662
Oral Surgery	1,159		-316		-222	621
Neurosurgery	2,012		-371		-8	1,633
Plastic Surgery	5,243		-659		-265	4,319
CDU	2		0		0	2
Pain Management	1,801		-8		0	1,793
General Medicine	6,329		0		-49	6,280
Haematology	3,562		0		0	3,562
Immunology	933		0		0	933
Infectious Diseases	16		0		0	16
Nephrology	2,716		0		0	2,716
Neurology	1,066		-1		0	1,065
Rheumatology	758		-92		0	666
Paediatric Neurology	207		-146		0	61
Gynaecology	4,002		-35		-521	3,446
Obstetrics/Midwifery	7		0		0	7
Neuropsychiatry	246		0		0	246
Child Psychiatry	0		0		0	0
Total	**56,452**	**797**	**-2,121**	**0**	**-4,701**	**50,427**

Non-Elective Inpatients						
Spells	2013-14 Projected Activity Before Transfers	ENT Transfers	Specialist Paed Transfers	Acute Flow Transfers	ISTC Transfers	2013-14 Projected Activity After Transfers
General Surgery	4,031		-9	-328		3,694
Urology	869		-8	0		861
Trauma & Orthopaedics	1,842		-347	-402		1,094
ENT	397	400	-50	0		747
Oral Surgery	82		-12	0		70
Neurosurgery	1,870		-298	0		1,572
Plastic Surgery	2,454		-572	0		1,882
CDU	6,118		-79	-144		5,895
Pain Management	3		-1	0		2
General Medicine	15,223		0	-1,668		13,554
Haematology	0		0	0		0
Immunology	0		0	0		0
Infectious Diseases	35		0	0		35
Nephrology	1,548		0	0		1,548
Neurology	377		-9	0		368
Rheumatology	8		-8	0		0
Paediatric Neurology	28		-28	0		0
Gynaecology	1,361		-8	0		1,353
Obstetrics/Midwifery	11,320		0	0		11,320
Neuropsychiatry	5		0	0		5
Child Psychiatry	0		0	0		0
Total	**47,571**	**400**	**-1,429**	**-2,542**	**0**	**44,000**

This section has set out the range of acute transfers that are planned. The detailed analysis of acute transfers by year at specialty level is set out in Appendix 5.vi.

5.3.6 Transfers to Community Settings

Detailed work was undertaken at OBC stage with clinicians in primary and secondary care to agree the proposed model of care, and to understand its implications in terms of what activity will be carried out where in the future. A number of planning assumptions have been made to determine the level of activity that will transfer to community settings by 2013/14.

Community beds: The work completed on the model of care identified the mix of patients who would be appropriate for 'step-down' inpatient care in the community. It also looked at the patients who would not need to be referred to the acute hospital if alternative inpatient community services were available. Based on this mix of patients, bed numbers were generated from hospital data which have taken account of the assumed proportions of current inpatient stays that would require step-down care.

Work was then undertaken to assess the services already in existence in the community for inpatient step-down care or for avoidance of admission. This work also looked at the likely care needs of the populations of North Bristol and South Gloucestershire. The results of this work are set out in the following table:

Table: 5.3.6.i Community Beds

	Frenchay Community Hospital	Southmead Community Hospital
Stroke rehabilitation	30beds	
Admission avoidance		10beds
General rehabilitation	54 beds	22 beds
Total	**84 beds**	**32 beds**

10 of the step-down rehabilitation beds are assessed to be required for patients currently receiving step-down care at the General Hospital run by UH Bristol, but for whom following the closure of the General Hospital, Southmead or Frenchay Community Hospital would be a more appropriate location than the South Bristol Community Hospital.

Thus the requirement for 116 community hospital beds to support the acute hospital is broken down as follows:

- 96 beds for step-down care from acute treatment provided by NBT
- 10 beds for step-down care from acute treatment provided by UH Bristol
- 10 beds for step-up care

This work has since been corroborated by the recording undertaken since 2005 of patients in the rehabilitation stage of their pathway through hospital at NBT. These rehabilitation beddays currently total 42876 in the 2008/9 plan, which equates to approximately 130 beds at 90% occupancy. A 26% reduction in bed based rehabilitation is required by 2013/14 to provide this care within the 96 beds planned in the two community hospitals.

Outpatients: Specialty-based discussions took place at OBC stage between clinicians from primary and secondary care and agreement was reached on the level and types of outpatient activity that could be transferred to community settings by 2013/14, and the proportions these represented of current total activity. These proportions agreed at OBC stage have been applied to the latest projected total attendances to update the assessment of the total number of attendances transferring. These are summarised in the table below:

Table: 5.3.6.ii Outpatients to Community

	Total Planned Activity in Acute Setting 2013/14	Total Planned Activity in Community Setting 2013/14	Transfers to Frenchay Community Hospital	Transfers to Southead Community Hospital	Transfers to Other Community Settings
New OP appts	61076	21045	2857	5828	12361
Follow Up OP appts	113339	64336	9264	18188	36884
Total OP appts	174415	85381	12121	24016	49245

Diagnostics: The elements of diagnostic tests that are assumed to transfer to community settings are:

- All GP direct access referrals for plain film and gynaecology/obstetric ultrasound. The plain film and ultrasound examinations associated with the transfer of outpatients as mentioned above. This gives an overall transfer of plain film and ultrasound scans of 45%.
- Direct access and outpatient referred MRI and CT scans for patients in the catchment area of Cossham hospital, equating to a transfer of 15%.

The detail of the current test numbers for all diagnostic modalities, growth to 2013/14 and transfer to community settings is shown in Appendix 5.vii, and is summarised in the table below:

Table 5.3.6.iii: Diagnostic services: Acute Hospital

Diagnostic facilities	**Total Examinations**	**Total Rooms**
2007/08 acute hospital activity	308,379	44.3
Projected growth	65,617	3.6
Transfers to the independent sector	-8,076	-0.9
Transfers to the Community	-130,186	-14
2013/14 Acute hospital activity	235,734	33
Diagnostic Services : Community Hospital		
Diagnostic facilities	**Total Examinations**	**Total Rooms**
2013/14 Southmead Community Hospital	32,944	3

Minor Injuries Units: All minor injuries attendances are assumed to transfer to community settings by 2013/14. This represents approximately 65% of all accident and emergency department attendances.

The detail of the current emergency department attendance numbers, growth to 2013/14 and transfer to community settings is shown in Appendix 5.viii, and is summarised in the table below.

Table 5.3.6.iv: Minor Injuries: growth and transfer to community settings

Attendances	**2008/9 plan**	**Growth**	**Acute flows**	**Transfer to**	**Total at 2013/1**
High	21,845	1,937	-1,753		22,029
Standard	6,894	595	-552		6,937
MIU	54,001	4,747	-2,385	-56,363	0
sub total	82,740	7,279	-4,690	-56,363	28,966
Frendoc/Nordoc	1,071	97	0		1,168
Total	**83,811**	**7,376**	**-4,690**	**-56,363**	**30,134**

Endoscopies: Endoscopy facilities will be provided in the Southmead hospital and in the Frenchay community hospital. These are complemented by an existing facility in Clevedon hospital that will be retained for the future.

5.4 DEMAND SUMMARY

Table 5.4.i below summarises the build up of the projected demand for inpatient and outpatient care in 2013/14 that has been described in sections 5.2 and 5.3. This build-up is shown on a year by year basis in Appendices 5.ix and 5.x.

Table 5.4.i Summary of activity to 2013/14

	Elective Inpatients & Daycases	Non-Elective Inpatients	Total Outpatients Attendances
2008/9 planned activity	53,926	44,719	307,216
Growth to 2013/14 net of alternatives	2,526	2,852	-6,556
SUB-TOTAL	**56,452**	**47,571**	**300,660**
Acute Flow transfers		-2,542	
ENT transfers	797	400	
Specialist transfers	-2,121	-1,429	-17,474
Independent Sector transfers	-4,701		-23,390
2013/14 projected activity	**50,427**	**44,000**	**259,796**
2013/14 activity in Community settings			85,381
2013/14 activity in Acute settings	50,427	44,000	174,415

5.5 PERFORMANCE IMPROVEMENT

An assessment has been made of the level of performance improvement that could be achieved as a result of the service redesign proposals and the new facilities. The impact of performance improvement on the capacity requirements for the new facilities has been assessed in relation to:

- Length of stay.
- Daycase rates.
- Utilisation of beds, theatres and diagnostic rooms.
- Outpatient new to follow-up ratios.

Performance improvement assumptions are described in the following sections. In general, performance targets for 2013/14 have been set at around the upper quartile performance levels in each specialty. These performance criteria were originally set at OBC using CHKS national benchmarking data and have subsequently been reviewed and revised utilising Dr Fosters national benchmarking information. This benchmarking data has been further confirmed following review by NHS South West, as incorporated in their report: Evaluation of North Bristol NHS Trust Private Finance Initiative Appointment Business Case

Many trusts achieving upper quartile in some specialties will have average or lower quartile performance in other specialties, and many trusts with upper quartile elective length of stay may have lower levels of performance on daycase rates. Therefore, targeting upper quartile performance in all specialties and in daycase rates as well as elective length of stay is likely to represent an overall performance level well over upper quartile. Further improvements in performance over upper quartile is planned over the first five years of the new hospital up to 2018/19, thus allowing ongoing growth in demand to be met without a need to expand the

hospital.

The overall level of planned inpatient performance improvement from the combination of length of stay reductions and day case rate increases is equivalent to 276 beds after netting off a transfer of 96 beds to community hospitals. This equates to an improvement of 27%.

5.5.1 Length of Stay

For the majority of specialties, NBT is planning on a length of stay that is around the upper quartile level of current performance, based on relevant casemix adjusted benchmarks.

A breakdown of the planned changes in length of stay by specialty and their impact on reducing reducing bed requirements, split between elective and non-elective inpatients, follows in tables 5.5.1i and 5.5.1ii. Planned lengths of stay by specialty in each individual year are shown in Appendix 5.xi.

Table 5.5.1.i: Length of Stay – Elective

Elective								
Benchmark Upper Quartile	**Benchmark Upper Decile**		**Specialty**	**2007/08 Actual**	**2013-14 Proposed**	**2018-19 Proposed**	**2023-24 Proposed**	**Movement in Bed Numbers 2007/08 to 2013/14**
3.6	3.3		General Surgery	3.6	3.1	2.9	2.9	-1.0
2.3	2.0		Urology	3.9	2.5	2.0	2.0	-6.0
3.7	3.4		Trauma & Orthopaedics	5.2	4.0	4.0	4.0	-15.0
1.2	1.0		ENT	2.5	1.4	1.4	1.4	0.0
0.4	0.3		Oral Surgery	1.9	1.5	1.5	1.5	0.0
4.6	4.2		Neurosurgery	4.5	4.3	4.0	4.0	-1.0
2.1	1.0		Plastic Surgery	3.2	2.5	2.2	2.2	-2.0
0.3	0.3		CDU	1.0	0.2	0.2	0.2	0.0
0.8	0.8		Pain Management	1.0	0.8	0.8	0.8	0.0
3.9	2.8		General Medicine	4.5	3.3	3.3	3.3	-1.0
2.6	0.5		Haematology	2.2	2.5	2.5	2.5	0.0
7.9	7.9		Immunology	10.3	0.8	0.8	0.8	0.0
7.4	7.4		Infectious Diseases	18.0	8.0	8.0	8.0	0.0
2.6	0.8		Nephrology	5.9	4.0	4.0	4.0	0.0
2.9	2.5		Neurology	3.3	2.5	2.5	2.5	-1.0
2.8	0.8		Rheumatology	16.3	5.0	5.0	5.0	-5.0
1.6	0.3		Paediatric Neurology	2.1	0.9	0.9	0.9	0.0
2.5	2.2		Gynaecology	2.5	2.1	2.1	2.1	-1.0
1.6	1.0		Obstetrics/Midwifery	4.1	2.0	2.0	2.0	0.0
19.0	19.0		Neuropsychiatry	15.3	19.0	19.0	19.0	0.0
15.0	15.0		Child Psychiatry	87.8	15.0	15.0	15.0	0.0
3.5	**3.3**		**Total**	**4.4**	**3.6**	**3.5**	**3.5**	**-33.0**
Percentage improvement					-18%	-21%	-21%	

Table: 5.5.1.ii Length of Stay – Non Elective

Non-Elective								
Benchmark Upper Quartile	**Benchmark Upper Decile**		**Specialty**	**2007/08 Actual**	**2013-14 Proposed**	**2018-19 Proposed**	**2023-24 Proposed**	**Movement in Bed Numbers 2007/08 to 2013/14**
5.2	4.7		General Surgery	6.8	5.0	4.6	4.6	-27.0
3.4	3.0		Urology	4.4	3.4	3.2	3.2	-1.0
8.0	6.8		Trauma & Orthopaedics	14.9	8.7	8.3	8.3	-22.0
2.1	1.7		ENT	3.7	2.2	2.2	2.2	-1.0
1.7	1.2		Oral Surgery	3.1	2.2	2.2	2.2	0.0
11.4	11.4		Neurosurgery	12.0	9.5	8.0	8.0	-5.0
1.7	1.5		Plastic Surgery	4.1	3.0	2.5	2.5	-5.0
1.2	0.9		CDU	2.3	1.5	0.6	0.6	-9.0
1.0	1.0		Pain Management	0.0	1.0	1.0	1.0	0.0
7.0	6.3		General Medicine	10.6	7.1	7.0	7.0	-132.0
7.3	4.4		Haematology	11.2	3.4	3.4	3.4	0.0
10.0	10.0		Immunology	7.0	1.0	1.0	1.0	0.0
6.3	6.2		Infectious Diseases	35.0	6.4	6.4	6.4	-1.0
8.1	7.2		Nephrology	12.0	8.0	8.0	8.0	-9.0
5.7	1.0		Neurology	12.7	9.0	9.0	9.0	-1.0
4.2	0.6		Rheumatology	42.3	6.0	6.0	6.0	0.0
3.9	1.0		Paediatric Neurology	3.6	2.0	2.0	2.0	0.0
1.3	1.1		Gynaecology	1.3	0.9	0.9	0.9	-1.0
1.3	1.0		Obstetrics/Midwifery	1.2	2.0	2.0	2.0	0.0
21.2	21.2		Neuropsychiatry	33.7	21.2	21.2	21.2	0.0
15.0	15.0		Child Psychiatry	61.6	15.0	15.0	15.0	0.0
4.4	**4.2**		**Total**	**6.3**	**4.8**	**4.5**	**4.5**	**-214.0**
Percentage improvement					-24%	-28%	-28%	

5.5.2 Daycase Rates

Discussions with clinicians within NBT have led to agreement that substantial improvements in current daycase rates will be achieved and sustained.

A considerable amount of work has taken place with clinical colleagues to identify achievable daycase rates base on available benchmarks. The national basket of 25 procedures has been taken into account and the recommended percentage of daycases has been adopted in the vast majority of cases. However, it should be noted that NBT has some particular case mix issues or other local factors, which means that the benchmark is sometimes unrealistic (e.g. both UBHT and NBT perform orthopaedic daycases but all inpatients are carried out at NBT). Where this is the case, adjustments have been made to the benchmarks for the relevant procedures.

Table 5.5.2.i sets out the current and proposed daycases rates by speciality. Planned daycase rates by specialty in each individual year are shown in Appendix 5.xii.

Table 5.5.2.i: Daycase rates by specialty

Benchmark Upper Quartile	Benchmark Upper Decile		Specialty	2007/08 Actual	2013-14 Proposed	2018-19 Proposed	2023-24 Proposed	Movement in Bed Numbers 2007/08 to 2013/14
70%	71%		General Surgery	68%	70%	76%	76%	-4
80%	79%		Urology	78%	80%	83%	83%	-2
45%	56%		Trauma & Orthopaedics	32%	45%	54%	54%	-14
60%	80%		ENT	53%	60%	72%	72%	-1
90%	99%		Oral Surgery	84%	90%	90%	90%	0
25%	25%		Neurosurgery	15%	25%	32%	32%	-3
81%	79%		Plastic Surgery	73%	81%	85%	85%	-3
0%	0%		CDU	0%	0%	0%	0%	0
100%	100%		Pain Management	100%	100%	100%	100%	0
96%	94%		General Medicine	96%	96%	96%	96%	-9
100%	97%		Haematology	100%	100%	100%	100%	0
100%	100%		Immunology	100%	100%	100%	100%	0
78%	78%		Infectious Diseases	29%	78%	78%	78%	0
85%	81%		Nephrology	67%	85%	85%	85%	-3
55%	80%		Neurology	39%	55%	55%	55%	-2
92%	97%		Rheumatology	74%	92%	92%	92%	-4
78%	82%		Paediatric Neurology	79%	78%	78%	78%	0
80%	72%		Gynaecology	68%	80%	80%	80%	-3
0%	0%		Obstetrics/Midwifery	0%	0%	0%	0%	0
0%	0%		Neuropsychiatry	0%	0%	0%	0%	0
0%	0%		Child Psychiatry	0%	0%	0%	0%	0
71%	**77%**		**Total**	**68%**	**75%**	**80%**	**79%**	**-48**
Percentage improvement					10%	18%	16%	

5.5.3 Utilisation of Beds and Theatres

5.5.3.1 Beds

Bed occupancy plans have been made for each specialty. These take account of:

- Planned turnover intervals.
- The impact of reduced weekend occupancy for surgical specialties due to five day operating.
- An allowance for volatility in activity.

The resulting occupancy levels by specialty in each year are shown in Appendix 5.xiii. The overall planned midnight occupancy from 2013/14 is 84% compared to the current 90% by 2013/14. Occupancy levels will be much higher than this during the day and outside weekends and at peak periods seasonally. This reduction in planned occupancy is consistent with the National Beds Inquiry which recognised that hospitals cannot operate efficiently if their space capacity is too limited. This leads to difficulties in managing peaks and troughs in demand. It identified 82% as an optimal occupancy level.

5.5.3.2 Theatres

There are no national models available to project the number of theatres required for a given level of activity. It is also difficult to compare theatre usage between hospitals, as it is so dependent on the model of care practised and the case mix.

In planning the number of new theatres required for the future, the Trust has assumed two four hour sessions per day per theatre and all-day sessions where appropriate for some specialties. It has not assumed weekend working, but this will be developed to provide capacity for ongoing activity increases after the hospital opens in 2013/14.

It assumes that best practice will be achieved in terms of the usage of staffed sessions, with lists starting and ending on time. The aim is to achieve average utilisation of 90% of available elective theatre operating time. In other words, the compound of session utilisation and "needle to skin" utilisation will be 90%. Currently utilisation on this basis is 80%. Emergency theatre requirements have been assessed on a similar basis, while assuming that the current proportion of operating out of weekday daytime operating is maintained. This equates to a requirement for 18 elective theatres and 4 emergency theatres. Appendix 5.xiv sets out the detailed assessment of theatre requirements, linked to the projected spells in 2013/14.

5.5.3.3 Outpatient First to Follow Up Rates

Reductions in outpatient follow-up rates have been agreed through the LDP process, with the exception of chronic diseases such as renal medicine, rheumatology, haematology, neurology, HIV and diabetes. These have been built into the future capacity requirements.

As a result of allowing for these chronic conditions, the planned overall first to follow up ratio is 1:2.16 in 2013/14, an improvement on the current ratio of 1:2.5 in 2007/08.

5.6 CAPACITY REQUIREMENTS

Based on the demand, activity flows and performance assumptions, proposed capacity levels for the new facilities to meet future needs of the local health community have been developed. The capacity assumptions take account of the need for:

- Beds
- Daycase trolleys
- Theatres
- Outpatient clinics
- Diagnostic rooms

These capacity requirements are set out in the sections below:

5.6.1 Bed Numbers

The above analysis has made clear the range of assumptions and scenarios the health community has considered in terms of overall growth, service transfers and capacity. However, following review of the business case by the Strategic Health Authority, it is clear that the local performance improvement assumptions as described above do not take sufficient account of the underlying trend of improvement being seen across the NHS over time. In other words, as well as planning to move to the current upper quartile length of stay and daycase rates, the plans need to reflect an improvement in the benchmark performance by 2013/14. In light of this, the Trust has committed to a further improvement in performance equal to a reduction of 50 beds. This will predominantly be achieved by non-elective length of stay reductions below the levels set out above, but also from increased daycase rates and slightly higher bed occupancy.

Taking account of this further 50 bed performance improvement, future bed requirements based on those assumptions are shown in the table below:

Table 5.6.1.i 2013/14 Bed Requirements

	Beds
Required acute & community beds in 2008/09	**1114**
Growth(net of alternatives to acute admission)	56
Specialist catchment area/transfers	10
Increase in casemix complexity	16
Reduction in length of stay	-151
Increase in daycase rates	-47
Decrease in occupancy rates	53
Further improvement in productivity	-50
Required beds in 2013/14 before transfers	**1001**
Transfer of step-down/rehabilitation to comm hosps	-96
Specialist paediatrics and ENT transfers	-22
Transfer to ISTC	-13
Transfers from changed acute flows	-55
Required acute beds in 2013/14 after transfers	**815**
Acute beds in the PFI scheme	768
Acute beds in retained estate	97
Planned acute beds	**865**
Required community beds	
Transfer of step-down/rehabilitation from acute	96
Step-up/admissions avoidance beds	10
Transfer of step-down beds from Bristol General	10
Total required community beds	**116**
Southmead Community Hospital (in PFI scheme)	32
Frenchay Community Hospital (outside PFI scheme)	84
Planned community beds	**116**

The further reduction in bed demand from further improved productivity is not carried forward to a reduction in the size of the scheme. This is because of the degree of uncertainty in the future demand forecasts, and the opportunities that exist for further rationalisation into the high quality facilities in the new hospital. Thus the scheme is being planned with a 50 bed contingency. This will be available to accommodate either higher activity growth than planned, a further release of retained beds or further acute rationalisation into the new Southmead hospital. The affordability modelling factors in the unitary payment and premises costs associated with these beds, but not the variable staffing and non pay costs.

The Frenchay Community Hospital does not form part of this ABC. The bed numbers shown above for the Frenchay Community Hospital are shown in line with the Outline Business Case pending the outcome of the health needs assessment currently being initiated.

The breakdown of the beds by speciality by year is shown in Appendix 5.xv.

Appendix 5.ix shows all the changes in activity, productivity and utilisation by year that drive the requirement for beds. Appendix 5.xvi is an overall summary of this.

Both of these appendices reflect the bed demand before the 50 bed reduction from further improved productivity described above.

5.6.2 Daycase and Recovery Trolleys

There will be a significant increase in the level of daycase activity in total, due to the rise in daycase rates discussed in section 5.5.2 above. However, a significant proportion of daycase surgery work is likely to be performed by an ISTC, rather than the acute hospital. This has therefore been given due consideration.

Daycase and recovery trolleys are provided within an integrated unit within the new hospital. The planned number of trolleys is 83. This has been calculated by assessing current patient throughput and improved models of care to maximise efficiency. It compares to an existing number of daycase and recovery trolleys of 129.

5.6.3 Theatre Capacity

The calculation of theatre capacity needed as described above is shown in detail in Appendix 5.xiv. The new acute hospital will require 18 elective theatres and a further four emergency theatres.

The requirement for theatre capacity has largely been affected by the change in activity levels, due to growth, and the specialty service transfers discussed previously. The Trust anticipates an improvement in theatre working practices based on the ongoing operational service improvement programme.

5.6.4 Outpatient Care Capacity Requirements

Capacity requirements in outpatient care are driven by the volume of activity and, more significantly, by the new model of care.

The level of activity to be treated in the acute hospital has been translated into estimated numbers of outpatient clinics by calculating new and follow up appointment times, assuming a DNA rate of 5%, clinic utilisation rate of 80% and assuming that the clinics run for 4 hours, 50 weeks per year. These factors can vary significantly and have been considered on a specialty and subspecialty basis. Once the number of clinics per specialty was determined, this was translated into the number of outpatient rooms and clusters of rooms required. The calculation to arrive at the number of clusters of outpatient rooms needed is shown in Appendix 5.xvii. This calculation indicates a requirement for 11 outpatient clusters in the acute hospital, with a further cluster in the Southmead Community Hospital in the PFI building.

Appendix 5.x shows all the changes in activity, productivity and utilisation by year that drive the requirement for outpatient clinics. Appendix 5.xviii is an overall summary of this.

5.6.5 Diagnostic Requirements

Capacity requirements in diagnostics are based on projected activity levels and performance improvements. Projected activity levels take account of changes in the model of care for outpatients, A&E attendances and GP direct access, with associated plain-film and ultrasound transferring to community settings.

The future diagnostic requirements assume a range of working hours for different diagnostic rooms to match the patient type including A&E attender, and outpatient. Therefore depending on the patient type, the length of usage of a room may vary from 10-24 hours per day. Extended days and routine weekend working has been factored in to support inpatient services and maximise the use of expensive equipment.

Diagnostic activity and numbers of rooms are shown in Appendix 5.vii.

5.7 SENSITIVITY ANALYSIS & CONTINGENCY PLANS

5.7.1 Sensitivity Analysis

Table 5.7.1.i below shows how the requirement for acute beds in the new hospital would compare to the 768 physical beds in the scheme, if some of the key assumptions were changed, and what the resulting surplus or shortfall of beds would then be, based on Trust modelling.

Table 5.7.1.i Bed sensitivity analysis

	Beds required based on ABC assumptions
Total Acute beds in the new hospital	768
Surplus beds at Upper Quartile length of stay	22
Surplus beds at Upper Decile length of stay	Est 106
Shortfall of beds at current length of stay	-276
Surplus beds if maximum transfer to Weston	18
Surplus beds if growth 0.5%pa less than planned	21
Shortfall of beds if growth 0.5%pa greater than planned	-22

If the Trust achieved current upper quartile performance across every specialty, then it would have 22 surplus beds in 2013/14. However, as outlined in section 5.5 above, achieving upper quartile in every specialty is likely to push the Trust into upper decile performance as a whole entity. Achieving upper decile in every specialty would result in 106 surplus beds, but given the same point this is not considered a sensible basis for planning.

If length of stay was not improved above the actual level achieved in 2007/8, this would leave the Trust short of 276 beds. This emphasises the importance of performance improvement in the project.

Other scenarios shown in the table are growth being 0.5% per annum greater or less than anticipated (giving a 21 bed shortfall/22 bed surplus), and the maximum realistic activity transferring to Weston (giving an 18 bed surplus). All these scenarios have a relatively small impact upon bed requirements.

The detailed sensitivity calculations are included in Appendices 5.xix and 5.xx.

However, the SHA sensitivity analysis, which takes account of the underlying national rate of improvement in productivity rather than simply a standstill analysis based on current productivity benchmarks as the Trust analysis above is, gives a range of bed requirements which is lower, as shown in Table 5.7.1.ii below.

Table 5.7.1.ii SHA bed sensitivity analysis

	Best case	Appointment Business Case	Worst Case
Beds required	612	768	949
Difference to Appointment Business Case	-156	-	+181

This shows that there is a best case in which bed demand is 156 beds lower than the capacity of the new hospital, and a worst case in which it is 181 beds higher. As explained above, in light of this analysis, the Trust is now increased its productivity targets to plan for a demand for beds 50 below the 768 acute beds planned for the new hospital. The staffing costs are assumed to be released, but in light of the wide range of potential future bed demand the scheme is not being downsized.

5.7.2 Contingencies

The advantage that the BHSP has in this development is that the PFI only accounts for around 30% of the total bed capacity between the local Trusts. Furthermore, NBT has not committed all its bed capacity to the PFI. This allows the use of a bed buffer to insure the development against either over or under capacity. This position is shown in the following table:

Table 5.7.2.i Contingencies

	Impact on beds required	Percentage of baseline beds
Contingencies for lower bed requirement in 13/14		
Incorporate obstetrics services into the PFI	97	c 12%
Incorporate intensive rehab spells into the PFI	Up to 40	c 5%
Shell or mothball beds for up to 5 years growth post 2013/14	Up to 60	Up to 7.5%
Accommodating potential BHSP transfers	Subject to future BHSP	
Contingencies for higher bed requirement in 13/14		
Retain Cotswold and Malvern beds (included at OBC stage)	48	c 6%
Retain the Avon Orthopaedic Centre and Renal Unit	100	c 12%

The contingencies shown for a higher bed requirement cover a higher demand of 148 beds. The SHA analysis indicates a worst case position of an additional requirement of 181 beds, and the Trust analysis indicates a scenario of no performance improvement at all would give a 276 bed shortfall.

This table reflects the exclusion of the obstetrics beds from the scheme and the presence of Cotswolds and Malvern wards that are in obstetrics area of the site and could be used as additional capacity if required.

The other key issues in terms of contingency planning:

- The rooms in the PFI have been designed to a standard template that allows flexible use e.g. between theatres, catheter laboratories and imaging.
- The PFI bidders have designed the scheme to be able absorb a further 200 beds.
- The planning permission for the scheme allows for additional 30% capacity.

SECTION 6: CASE FOR CHANGE

6.1 INTRODUCTION

There has been a consistent case for change throughout the development of the Strategic Outline Case, the Outline Business Case and the Appointment Business Case.

Since the approval of the OBC in January 2006 the direction of national policy and initiatives has served to strengthen the case of change, rather than diminish it. In addition to this, continuing work on the implementation of the individual elements of the Bristol Health Services Plan has consolidated the direction of change locally. This chapter therefore reiterates and builds on the OBC case for change.

Across Bristol, North Somerset and South Gloucestershire there is a need to develop a new system of healthcare, which addresses both the changing needs of patients, and also enables the delivery of high quality services by NHS staff. This new model of healthcare includes the following main objectives:

- Provide care closer to the patient's home where this is clinically appropriate.
- Provide effective local health services by harmonising primary care, social care and local hospital services.
- Develop specialist services and clinical networks which provide high quality and fast access to specialist opinion and on-going care.
- Provide a vibrant learning and research culture that benefits clinical services.
- Improve the efficiency and value for money of services.
- Enable local services to respond to national initiatives including the themes emerging from the Darzi review.

In addition, there is a need to address the problems with hospital accommodation and environment with the intention to:

- Put an end to the cramped, overcrowded wards within NBT, by providing high quality facilities which facilitate care and recovery, thereby improving patient safety and ensuring privacy and dignity for patients.
- Provide a greatly improved working environment and facilities for staff and visitors.
- Contribute to the wider objective of neighbourhood renewal and regeneration

This section considers the ability of the current configuration of services and the current health service estate to achieve these objectives.

6.2 OBJECTIVE ONE: PROVIDE CARE CLOSER TO THE PATIENT'S HOME

At the present time many patients travel a considerable distance from home to either Frenchay or Southmead Hospitals in order to access services which need not be provided from a central acute site. There is a strong case for providing these services in a local community or primary care setting. This Business Case recognises the need to bring care closer to the patient in a way which is cost effective and maintains clinical standards.

The services which could and should be provided locally include:

Service	Patients that could be treated in Community Facilities
Minor Injuries	Around 45% of patients attending the A&E Department at Frenchay Hospital have problems which could easily be dealt with by a local minor injuries service.
Outpatients/ Chronic Disease Management	It is estimated that up to 50% of the outpatient attendances which currently take place at Frenchay or Southmead Hospitals do not need to take place in an acute hospital.
Rehabilitation	A busy acute hospital is often not the best place to recover from an illness or an operation – people can often recover better in their own homes if they have the appropriate support, or in a community focused in-patient facility, specially designed for rehabilitation.
Diagnostics	Plain x-ray, ultrasound, MRI and CT can efficiently be provided in community settings.

Current community and primary care facilities are incapable of supporting the large-scale shifts of emphasis and activity proposed by the BHSP and this Business Case. To date there has been limited progress in shifting services away from the acute teaching hospitals, into primary care directed community alternatives.

There is a need for new community hospitals and health centres to provide facilities, which offer improved clinical practice and better outcomes for patients. The facilities will also provide accessible diagnostic services to help GPs in caring for their patients more comprehensively and promptly in the community, and create space for GPs to deliver improved services for patients with long-term conditions.

Without significant investment in new community facilities, the local health community will fail in its core objectives of providing a more accessible range of services. The planning of the new Southmead Hospital is based on a considerable amount of activity shifting to the community.

Conclusion
The achievement of the objective of a substantial transfer of care into local settings will require a restructuring of the current healthcare facilities and the build-up of a comprehensive community network. This ABC is based upon significant shifts of activity from the acute setting to the community.

6.3 OBJECTIVE TWO: PROVIDE EFFECTIVE LOCAL HEALTH SERVICES

The present situation, described in the strategic context, in which acute and emergency services for the local population are split across two main acute hospital sites, has long been a cause of serious clinical concern. Services are either provided on one hospital acute site but not the other, or split across the two sites. This inevitably leads to fragmentation or duplication of services, both of which lead to unnecessary difficulty in the effective provision of patient care. The increasing trend towards clinical sub-specialisation makes it imperative that acute specialities are brought together to provide high quality care for patients who are acutely or seriously ill, enabling patients to have rapid accurate diagnosis and treatment. The provision of all acute and emergency services for the local population from one hospital site will remove the need for patients to be transported between hospitals as part of their care pathway, and for staff to travel between hospitals to provide that care, both situations being inefficient and ineffective. Concentration of these services will lead to much improved patient care and safety.

The new model of care requires integration of front-door receiving teams for sick patients and this requires the physical merging of the acute assessment and A&E services. These front-door services need to be backed up with diagnostic services, critical care, operating and inpatient facilities to allow patients ease of movement into well staffed high quality acute environments.

The development of services capable of meeting demand also requires a change in the way assessment services are provided, with a shift towards:

- Concentrated hi-tech diagnostic and assessment facilities.
- Community based low-tech consulting and diagnostic facilities.

Conclusion
The achievement of the objective of the provision of an effective local system of healthcare for the people of North Bristol and South Gloucestershire requires investment in a new acute and emergency hospital on a single site (Southmead), replacing the two existing hospitals at Frenchay and Southmead.

6.4 OBJECTIVE THREE: DEVELOP SPECIALIST SERVICES AND CLINICAL NETWORKS

The strategic context section discusses the requirement for and the plans for the concentration of specialist and tertiary services in Bristol. This is necessary to ensure the provision of the best possible patient care, recognising the need to make the most effective use of specialist skills and equipment.

The BHSP identified a range of initiatives to achieve this, including:

- The restructuring and concentration of certain specialties such as children's services.
- The connection of specialist services using new technology.

These initiatives require significant development of facilities to deliver purpose built environments for specialist services. General Paediatric services are now concentrated at the Bristol Children's Hospital and detailed planning is in hand for the transfer of specialist paediatric services to the Bristol Children's Hospital. It is important to ensure that children are cared for in a specialist children's hospital with the appropriate environment and skill mix.

Without a major restructure of services, the strategic objective within the BHSP of the centralisation of specialist and tertiary services will not be achieved with the associated increase

in clinical risk, and inefficiency of provision.

Conclusion
The achievement of the objective to develop and concentrate specialist services requires investment in new configurations of hospital buildings, accompanied by investment in technological networks.

6.5 OBJECTIVE FOUR: PROVIDE A VIBRANT LEARNING AND RESEARCH CULTURE THAT BENEFITS CLINICAL SERVICES

The strategic context describes the academic strategy for North Bristol and South Gloucestershire and identifies the main problems with delivery of this strategy, namely:

- A lack of integration of the various academic activities around the North Bristol Trust sites. There is currently a wide scattering of academic activities on the Frenchay, Southmead and Blackberry Hill Hospital sites. This leads to difficulties in co-ordination, and in maintaining a systematic approach to learning.

- An absence of educational and learning space in the majority of the clinical environments, makes it difficult to meet the developing trend in health service education, to provide teaching at the 'patient's bedside'.

- An under-investment in state-of-the art clinical skills laboratories which would allow the Trust to develop modern teaching techniques, based around the simulation of clinical situations.

Several national educational bodies have pointed out the difficulties that arise from the current site configuration in respect of specialist training for qualified clinical staff, as well as for general training for the clinical staff of the future. Such training will be significantly improved by a move to a single acute hospital model.

A vibrant learning, education and research culture benefits both the design and the delivery of clinical services. A major restructuring of the educational environment will therefore lead to improved services for patients, will enable new national standards for teaching to be met, and will improve the attractiveness of the local health community to high quality clinical and academic staff.

Conclusion
The achievement of the implementation of a modern academic strategy requires investment in a complete overhaul of the current health estate, providing educational space designed for purpose.

6.6 OBJECTIVE FIVE: IMPROVE THE EFFICIENCY AND VALUE FOR MONEY OF SERVICES

The present ageing acute estate has a number of problems as discussed earlier in this case. Many of the buildings are non-compliant with modern building standards, maintenance costs are increasing and there is a constant struggle to maintain appropriate temperatures across a disjointed and fragmented estate. Roofing and service failures are frequent and disruption can last for extended periods given the difficulty of patching to seriously deteriorated adjacent fabric. Theatre time is often lost because of the need for maintenance of old facilities and the current problems with maintaining the theatre estate at Frenchay Hospital is leading to severe problems in meeting waiting list targets. This inefficiency will increase further over time as physical deterioration and the increasing cost of fuel impact.

Whilst improving the quality of individual buildings within the current estate would be helpful, to do so does not begin to address the underlying fundamental difficulty that many of the existing buildings are completely inappropriate for the delivery of modern health care and are often positioned in such a way as to complicate patient care pathways. This therefore diminishes both the quality of care given to patients, and ultimately their safety.

The distribution of acute services over two sites presents a significant efficiency problem to the Trusts as it means that for every site where there are emergency admissions, there is a need for expert doctors in every specialty 24 hours a day, 7 days a week to maintain effective emergency cover. The cost of maintaining such services, particularly given recent national changes in contracts for clinical staff, together with employment legislation such as the European Working Time Directive, means that the provision of acute services from one site will release significant savings in staffing costs which will be directly invested into improved patient care.

Conclusion
The achievement of the objective of improving efficiency and value for money in services requires a fundamental restructure of the hospital estate in South Gloucestershire and North Bristol.

6.7 OBJECTIVE SIX: ENABLE LOCAL SERVICES TO RESPOND TO NATIONAL INITIATIVES

This Business Case recognises the impact of patient consumerism and the creation of a competitive market within the provision of healthcare. The local providers want to be seen as 'providers of choice' by the people of North Bristol and South Gloucestershire, but loyalty can only be justified if local services are competitive and delivered to an acceptable level of quality. Local provision needs to be transformed in line with the change agenda proposed within this Business Case.

Without a change in the way services are provided, the Trusts will fail to meet the ever-tightening standards being set by the government for healthcare and fail to respond to the need to meet Patient Choice.

Conclusion
The level of transformation required to meet the Patient Choice agenda requires a high level of investment in services across North Bristol and South Gloucestershire, and significant improvement in the clinical environment.

6.8 OBJECTIVE SEVEN: PUT AN END TO CRAMPED, OVERCROWDED WARDS, PROVIDING HIGH QUALITY FACILITIES WHICH SUPPORT CARE AND RECOVERY, AND ENSURE PRIVACY AND SAFETY FOR PATIENTS.

The strategic context section summarized some of the problems with the current estate. Approximately 50% or the Trust's buildings are now in the condition that they are not considered to provide an acceptable environment for patient care. Services, which should be located close together, are often too far apart. In particular, theatres, critical care, admission wards and rapid diagnostics all need to be close to one another to provide quality patient care, but they are not. Patients at both hospitals often have to travel long distances between different facilities, and in some cases inpatients have to be wheeled in their beds or their trolleys across roadways and other external areas, in all weathers, to reach the required departments. Many buildings are scattered across the site and are not joined by internal corridors. This general lack of cohesion presents an unwelcoming and confusing environment to patients and visitors alike, with patients frequently having to park a long way from the services they need to access. The resultant level of dissatisfaction can be measured in part by the number of complaints received.

6.8.1 Patient Dignity and Privacy

- Many wards and toilet areas do not provide an acceptable standard of privacy for patients. In some wards, particularly at Frenchay Hospital, bathroom facilities are so cramped that patients have to undress at the bedside or behind screens in ward corridors.
- The layout in the nightingale wards works against any attempts by staff to mitigate the lack of privacy and dignity for patients.
- Bed spaces are extremely cramped in some in-patient wards, limiting privacy, and causing mobility problems for some patients.
- Many waiting areas are often too small or inadequate so that patients have to wait on trolleys in open spaces.

6.8.2 Patient Safety

- Patient safety is compromised by the design of the estate; considerable distances separate key patient areas and departments. Therefore patients are constantly required to be moved on trolleys to diagnostic services and operating theatres throughout the estate. The new hospital will provide appropriate adjacencies of clinical departments, allowing patients to have rapid access to specialist staff and equipment.

- Across the present estate, patient safety is compromised by designs which take no account of the difficulties of modern hospital acquired infections, and invalidate many of the actions taken to reduce infection rates. The new hospital will include a high proportion of single rooms, which, together with its overall design, will enable patients with such infections to be rapidly quarantined and the infection contained, rather than allowing those infections to spread rapidly through open wards.

- The current split of specialties, and of elective and non-elective admissions, between Southmead and Frenchay Hospitals has led to an increasing number of patients needing to be transferred between the two hospitals. This can be a distressing experience for patients, and introduces additional risk into the in-patient experience.

6.8.3 General Health Safety and Security Considerations

- Both sites have many buildings which pose an asbestos hazard.
- Good security is very difficult to maintain on the large fragmented sites.
- Due to insufficient storage space in many areas, corridors are cluttered with vital equipment posing a risk.
- Some of the ward areas, particularly at Frenchay Hospital are difficult to maintain at appropriate temperatures.

Conclusion
The major shortcomings of the ageing acute estate and the requirement for additional capacity in community facilities can only be corrected by considerable and well-planned investment across the health community.

6.9 OBJECTIVE EIGHT: PROVIDE A GREATLY IMPROVED WORKING ENVIRONMENT AND FACILITIES FOR STAFF

Staff environments are very mixed in the current estate. Some departments have adequate facilities but there are a number of buildings that are difficult to work in due to:

- Inadequate temperature control.
- Lack of basic changing facilities.
- Security issues linked to distant parking and lack of security infrastructure.
- The requirement to walk long distances, sometimes out of doors, whilst transporting patients between services.

Competition to recruit expert clinical staff has increased in recent years. Whilst staff continue to be attracted to the local health community because of its clinical reputation, many clinicians have made it clear that the appalling condition of the estate has been the sole reason why they have chosen not to work here.

Conclusion
Due to the major shortcomings of the aging acute estate, the creation of a suitable environment for staff requires major investment, in order to provide an acceptable standard of facilities for staff.

6.10 OBJECTIVE NINE: CONTRIBUTE TO THE WIDER OBJECTIVE OF NEIGHBOURHOOD RENEWAL AND REGENERATION

The strategic context section looks at the objectives of neighbourhood renewal and contribution to urban regeneration. The current Southmead Hospital is buried behind road-front housing and delivers very little in the way of civic presence. The development of a new acute site in Southmead allows the opportunity to:

- Provide a new hospital building with civic presence to help uplift the local area.
- Provide significant employment opportunities in one of the most deprived areas in Bristol.
- Act as a catalyst for further development in the area.

Conclusion
There is a major opportunity to provide a significant contribution to neighbourhood renewal in a disadvantaged part of Bristol.

6.11 CONCLUSION OF THE CASE FOR CHANGE

The overall case for change draws upon the need to modernise patient care and the requirement to set the delivery of patient care in a physical environment which is enabling, fit for purpose and capable of promoting and encouraging better health outcomes.

The case for change centres on:

- The need to develop and provide a new clinical model which will meet the expectations of, and the demands placed upon, modern health care services.
- The need for service modernisation and reconfiguration to meet national initiatives and policy, and local strategic objectives, particularly with regard to the Bristol Health Services Plan.
- The very great need to improve the environment in which health services are provided, and in which staff work.
- The need to contribute to neighbourhood renewal and to provide civic presence.

The North Bristol NHS Trust, NHS Bristol and NHS South Gloucestershire strongly believe that the proposals put forward in this business case represent a solution to the problems set out in this case for change. In particular this Business Case looks to ensure that:

- The new health developments are flexible and future-proof.
- The solutions to the identified problems are practical and deliverable.
- The proposed solutions are affordable and provide Value for Money.

SECTION 7: BIDDER COMPETITION AND SELECTION

7.1 THE PROCUREMENT STRATEGY

Having established a case for change as described in Section 6, the Trust embarked on the procurement of the Southmead scheme. To inform this procurement, the Trust drew up a detailed procurement strategy and timetable, and has adhered to this throughout the completed stages of the competitive dialogue process.

The strategy took account of the EU move from the negotiated procedure to the process of competitive dialogue, the key implications being:

- More certainty at the preferred bidder stage with regard to the deal.
- Development of a more complete solution with a detailed hospital design with a fixed price prior to preferred bidder.
- ABC approval prior to selection of a preferred bidder. This will force clarity over the financial deal.

To respond to these issues generated by the competitive dialogue procedure, the Trust developed a strategy that has included the following:

- Preparation of legal documentation in advance of OJEU to crystallise the Trust's commercial position. This involved the production of a project specific Project Agreement. The Project Agreement includes bespoke drafting in respect of phasing, equipment, retail income, energy and Historic Buildings retained as part of the solution.
- Preparation of a weighted payment mechanism to govern risk transfer before OJEU.
- Detailed design specifications as part of the ITPD, including a number of specified standard rooms, complete with output specifications such as engineering loading and environmental conditions.
- Sign-off of standard rooms, design specifications and schedule of area by the Trust users in advance of OJEU.
- An open process with the bidders that allowed for weekly meetings between each bid team and the Trust.
- Control of user dialogue by a central Trust Project Team.
- The mandatory requirement for a funding competition to be held at the preferred bidder stage in accordance with the new central requirements.
- A 3:2:1 process with the Trust selecting from three bidders to two bidders, to one preferred bidder.
- A single detailed planning proposal on selection of a preferred bidder.

This strategy has relied on the Trust having a high degree of clarity of its requirements, together with a robust core Project Team that has steered the procurement and ensured the achievement of wide user consultation. The Project Team has been informed by a central group of clinical and service champions led by the Trust Medical Director. The principles of this process included:

- A central brief from the clinical champions signed off in advance and owned by the Project Team.
- A generic design brief that treats inpatient/outpatient/core clinical areas as zones with ownership of these zones by key Trust personnel.

This strategy gave bidders the opportunity to be briefed by a small core Project Team and to consult with a wide range of users, as required. User consultation has been part of a controlled process, with the opportunity given for users to liaise with the Project Team and report on the findings from user meetings.

The other main process that was undertaken during competition was the due diligence review from funders' advisors that produced a report to be used as the basis for a funding competition. This report confirmed there were no major issues contained in either of the two bids that might cause funding problems.

7.2 APPROACH TO BIDDER EVALUATION

An evaluation strategy was developed that defined the process for evaluation and the selection of bidders at the interim submission stage and at final bid stage. The bids at both interim submission and final bid stage responded to the defined set of bid deliverables.

Evaluation and selection was undertaken by the Trust Project Team and members from nine key sub-groups who were responsible for discrete areas of the evaluation. These areas are set out in Appendix 7.i together with the evaluation criteria, and the team responsibility.

7.3 KEY DELIVERABLES

The ITPD documentation included, at Volume 4, (given at Appendix 7.ii) a detailed set of deliverables which bidders would need to produce and issue as part of their interim and final bid submissions. The deliverables were grouped under the following headings:

- Section D – Design
- Section C – Commercial
- Section FM - Facilities Management
- Section E - Equipment & IT
- Section P - Project Management
- Section F – Financial

Each sub-set of design deliverables included a statement of the key themes which the bids needed to address. The key criteria underpinning each sub-set of deliverables are set out in the table below. These criteria were used to assess each bidder scheme based on the deliverables submitted:

Table 7.3.i

ITPD Evaluation Criteria
DESIGN AND CONSTRUCTION:
• **Form and materials** Form • The building should have presence but not feel overwhelming. It should have human scale. • The building form should blend with surroundings. • The design should be oriented in a sensitive way to take advantage of climate, sun paths etc. • The building should be composed in a logical and attractive manner and not appear as a Frankenstein's monster (it should grab you by the heart not by the throat). Materials • The external materials and detailing should be of high quality, non-institutional and durable. • The internal finishes should be high quality, non-institutional and durable. • The workmanship should be of high quality.
• **Staff and patient environment** • There should be creative and abundant use of natural light. • The inside should be effectively connected to the outside • Internal dimensions should be of the correct scale. • The main public spaces must be particularly attractive and available to sit in. • Circulation routes should be attractive. • Patient areas should be comfortable, private and afford dignity. • Patients should clearly feel that they are in a private space. • Staff areas should be lovely, attractive and of high quality. • Private and separate spaces should be provided for staff. • Colour should be used effectively and imaginatively. Environmental conditions should be excellent.
• **Urban and social integration** • The scheme should develop a well connected public realm. • The hospital site should be a coherent 'place' that flows as a continuation of adjoining neighbourhoods. • The whole site should be logical, organised and clear with a central and distinctive heart. • The master plan should work effectively at each phase of development and should not rely on completion of later stages before it achieves success. • Buildings should be configured into perimeter blocks with clear public fronts and private backs. • There should be a logical and legible network of routes, intersections and spaces. • The site should be an attractive, multi-functional public realm. • Scale & massing of buildings should be appropriate to street type and width. • Resource efficiency: There should be efficient use of land and property resources to maximise opportunities for future use of land for expansion.

ITPD Evaluation Criteria

- **Performance**
  - The building should be a sustainability exemplar.
  - The building should be easy to operate, maintain and clean.
  - The design should maximise energy efficiency.
  - The scheme should have an exemplary EMS.
  - The building must use recycled materials and achieve a minimum recycled content level of 20% by value. In addition, it must be demonstrated that the 'top ten quick win' opportunities to increase the value of materials derived from recycled and reused content have been identified and a good practice level of recycled content achieved wherever technically and commercially viable.

- **Engineering**
  - The building should not be over-engineered with an appropriate balance of cost of engineering.
  - The engineering systems should be well designed, flexible and efficient.
  - The engineering systems should exploit any benefits from standardisation and prefabrication.
  - There should be effective emergency backup systems.
  - Fire systems should be safe and efficient.
  - The primary infrastructure should be efficient and future-proofed.

- **Construction**
  - Phased planning and construction should be well organised.
  - There should be minimal impact on service delivery.
  - The construction should be robust.
  - The construction should allow easy access to engineering systems for maintenance, replacement and expansion.
  - The construction should exploit benefits from standardisation and prefabrication.
  - The construction must minimise waste generation through the development of a Site Waste Management Plan (SWMP).

- **Use**
  - The building should facilitate efficient and effective working.
  - The building should allow the Trust to implement its clinical models and FM support services.
  - The building should have flexibility to support change.
  - The building should have a logical complement of standardised rooms.
  - The building should provide a state- of-the-art, secure, and infection free environment for patients and staff.
  - Storage and support facilities should be logically planned.

ITPD Evaluation Criteria

- **Access**
  - The layout, structure and feel of the site should encourage public transport, cycling and walking.
  - The site needs to be treated as a whole entity with logical interconnections.
  - The site needs the capacity to develop naturally over time and maintain its logic.
  - The new hospital should have a clear cohesive identity with a minimum number of access points.
  - Accepting the above principle services should be directly accessible where possible avoiding the need for multiple layers of reception and receipt.
  - Again, accepting the above principle, it should be easy for patients and visitors to re-orientate to their destination if they arrive at the wrong zone.
  - Wayfinding should be logical, where possible by the senses rather than by signage.
  - The circulation distances for staff, patients and visitors should be minimised by the layout. Travel distances should encourage the ease of providing one stop clinical services.
  - Staff should be given opportunities to mix informally as part of the circulation strategy.
  - Clashing types of activities should be kept apart.
  - Access routes should aid privacy and dignity for example access to the mortuary.
  - Access routes should be secure and appropriately lit.
  - Car parks should be discrete, ideally invisible and dispersed.

- **Space**
  - The design should achieve appropriate space standards.
  - Space should be used intelligently to maximise useful space and minimise left-over areas.
  - There should be an intelligent use of breakout space.
  - Dead space should be avoided.

DELIVERABILITY AND APPROACH

- **Commercial and Legal**
  - PA and schedules
  - Deferred Investigations / Issues Outstanding Post Preferred Bidder
  - Subcontracts/ consortium arrangements

- **Equipment**
  - Method Statement - ADB Database
  - Acceptance of ERM and use of ADB codes
  - Equipping Price Fix Statement
  - Method Statement Cat A2/F service and proformas
  - Category B equipment costing schedule
  - Procurement and replacement of Cat A1 equipment
  - Patient entertainment system
  - Strategy on fixed soft FM equipment

- **IT**
  - IT rooms
  - Fallback phones
  - Wireless
  - Network
  - Mobile phones
  - Patient entertainment
  - Wider technology

ITPD Evaluation Criteria

• **Financial**
  • Funding General – potential funding packages, outline of proposed debt funding packages below senior debt, including guarantors, required returns, etc.
  • Deliverability – description of bidders' due diligence work; key subcontract terms; evidence of surety bonding achieving being capable of achieving investment grade.
  • Financial Assumptions -- advantages of bid design and commercial solution which impact on affordability envelope.
  • Financial Assumptions – financial model, sensitivities and underlying model assumptions.
  • Tax & Accounting – statement of tax and accounting assumptions including tax deductibles, etc.; confirmation that the model is underwritten by the bidder; evidence of tax and accounting due diligence work undertaken by the bidder.
  • Funding Competition – confirming commitment to the process.
  • Third Party Income – provide proposals including income and profit sharing arrangements.
  • Service Payment Phasing – confirmation of phasing of Unitary Payment; construction programme phasing.

• **Project Management**
  • Working relationships.
  • Capacity of team to meet contract deadlines.
  • Capacity of team to meet construction deadlines.
  • Overall cohesion of team.

7.4 INTERIM SUBMISSION

Evaluation of interim bid submissions took place over Christmas 2007 using the methodology set out above and in Appendix 7.i. The interim bids were submitted on 14 December 2007. The outcome of the evaluation of the interim submission resulted in the selection of solutions from Carillion and Skanska in January 2008, with whom the Trust continued dialogue. Catalyst decided not to submit an interim bid. Despite the absence of a third bid, the Trust continued to employ its evaluation strategy to ensure a robust methodology was applied which could be built upon for the final bid submissions. It also provided essential feedback to bidders regarding their schemes. The evaluation was based on the interim bid submissions including progress made to date and an assessment of how likely it was that a proposal would convert into a high quality solution that would be affordable and capable of meeting all of the Trust's requirements.

The interim bid evaluation comprised a number of stages including:

- Compliance checks for overall response to the deliverables.
- Evaluation and scoring of bids.
- Financial analysis.
- Value for Money assessment.

7.5 FINAL BID SUBMISSION

The process of selecting the preferred bidder comprises five interlocking strands of work including:

- Completion of bidding and clarification of bids.
- Evaluation of bids.
- Trust minds to appoint Preferred Bidder.
- Preparation and issue of Preferred Bidder Letter.

- Assessment of winning bid by the funders' advisors.
- Preparation and approval of the ABC.
- Formal appointment of the Preferred Bidder.

The bid evaluation included the following stages:

- Compliance checks for overall response to the deliverables, financial affordability, financial deliverability and design deliverability.
- Evaluation and scoring of bids.
- Financial analysis.
- Value for Money assessment.

The two bidders submitted their draft bids on 19 June 2008. The draft bids were required to be practically complete and to include cost proposals. These draft bids were clarified by questions and answers and a presentation on 24 July 2008.

Following these submissions, there was a period of approval as the SHA reviewed the scheme to check for consistency with the original OBC and to ensure affordability criteria could be met in the light of:

- Changes in accounting treatment with a requirement to place the new hospital on balance sheet.
- Toughening market conditions with difficulties in bank and bond lending.

This process ended in an SHA approval to close the dialogue in January 2009 followed by DH approval in February 2009.

A final evaluation process was then conducted by all the project sub-groups and collated to produce a summary score.

A Value for Money rating was then applied by dividing the scores achieved by each bid by the cost of the bid (including associated impacts on Trust costs).

This combined score was presented to the Project Board as a rating for each Bidder with explanatory reports covering each subject.

The Project Board reviewed the ratings, explored the rationale for the scores with the individual project leads and arrived at a recommendation for the Trust Board.

In February 2009, the Trust Board reviewed this recommendation and was minded to appoint Carillion.

7.6 BIDDER SELECTION

7.6.1 Compliance Checks

The bids were initially vetted to ensure they passed the Trust's compliance checks including:

- Not exceeding affordability ceilings.
- Meeting requirements of Town Planners.
- Complying with the Trust's commercial and legal drafting.

Both bids passed these compliance hurdles and were then subjected to the scoring process.

7.6.2 Evaluation Scores

Key Evaluation Criterion	Deliverables to be evaluated	Weight (%)	Carillion	Skanska
DESIGN AND CONSTRUCTION				
Character and innovation				
Character	D1: D1.1f-D1.4f	3	2.3	2.5
Innovation	D1: D1.5f-D1.6f	3	2.3	2.4
Form and materials				
Form	D2: D2.1f-D2.4f	3	2.5	2.6
Materials	D2: D2.5f-D2.8f	6	5.1	4.8
Staff and patient environment	D3: D3.1f-D3.7f	9	7.1	7.5
Urban and social integration	D4: D4.1f-D4.8f	6	4.6	4.6
Performance	D5: D5.1f-D5.4f	6	4.9	4.7
Engineering	D6: D6.1f-D6.11f	3	2.3	2.1
Construction	D7: D7.1f-D7.10f	3	2.2	2.0
Use	D8: D8.1f-D8.15f	25	18.4	20.5
Access	D9: D9.1f-D9.6f	6	4.6	5.0
Space	D10: D10.1f-D10.3f	1	0.7	0.8
Sub-total			**56.9**	**59.4**
DELIVERABILITY AND APPROACH				
Commercial and legal				
PA and Schedules	C1f-C4f, C9f	2	1.5	1.2
Deferred investigations	C5f-C6f	1	0.8	0.6
Subcontracts/consortium arrangements	C7f-C8f	1	0.8	0.8
Equipping & Commissioning	E1.1f-E3.3f	1.5	1.0	0.6
IT	E4.1f-E4.5f	1.5	1.2	1.3
Financial	F1f, F2f, F3f, F4f,F5f	4	2.7	2.8
Project management	P1f-P4f	5	4.2	3.8
Sub-total			**12.1**	**11.0**
HARD FM SERVICES				
Approach to management of services & staffing	FM1.1f-FM1.10f	2	1.6	1.4
Approach to stat. compliance, QA & monitoring	FM2.1f-FM2.6f	2	1.8	1.6
Method statements	FM3.1f	6	5.0	5.0
Sub-total			**8.3**	**8.0**
TOTAL		**100**	**77.3**	**78.4**

An explanation of the bid deliverables can be seen at appendix 7.6.2.

This table shows a differential of 1.1 points for Skanska over Carillion (1.4% higher than the 77.3 points awarded to the Carillion bid). The main contributor to this being design and construction where Skanska scored 2.5 points higher than Carillion.

In contrast, Carillion scored more on deliverability and approach, and Hard FM services. In terms of the individual work-streams under deliverability and approach, Carillion has achieved a higher score for project management, equipping, and commercial criteria with Skanska achieving a better score for IT.

The scores above were derived by taking each score achieved in an individual category (out of a total of 6) and applying this to the relevant weighting. For example Skanska scored 5 out of 6 on Character, a workstream that attracts 3% of the total score. The weighted score shown above is therefore calculated as: 5/6* 3=2.5. It should be noted that the scores have been rounded for

the purposes of this report.

7.6.3 Evaluation by Work-Stream and Evaluation Criteria

The overall score is derived from a number of groups, the main two being:

- The Design Group chaired by the Chief Executive as Design Champion.
- The Clinical Specification Group chaired by the Medical Director as Clinical Design Champion.

The breakdown of scores by each of the workstream groups to the evaluation criteria for design and construction is provided in the table below:

Scores by evaluation criteria and workstream												
	Clinical Specs Grp		Design Group		Fresh Arts Commttee		Sustainability Group		Technical Sub-grp		User & Access	
DESIGN AND CONSTRUCTION	**Car**	**Ska**	**Car**	**Ska**	**Car**	**Ska**	**Car**	**Ska**	**Car**	**Ska**	**Car**	**Ska**
Character and innovation												
Character			4.5	5.0								
Innovation	4.6	4.7	4.6	4.7								
Form and materials												
Form			4.9	5.1								
Materials			5.1	4.8								
Staff and patient environment	5.0	5.0	4.7	5.0							4.5	5.0
Urban and social integration			4.5	4.9	5.1	3.1						
Performance							4.9	4.7				
Engineering							4.6	4.2	4.6	4.2		
Construction							4.4	4.0	4.4	4.0		
Use	4.4	4.9										
Access			4.6	5.0							4.6	5.0
Space	4.5	5.0	4.2	4.8							4.5	5.0
Average score Design & Construction	**4.5**	**4.9**	**4.7**	**4.9**	**5.1**	**3.1**	**4.7**	**4.5**	**4.5**	**4.1**	**4.5**	**5.0**

7.6.4 Key Differentiators

7.6.4.1 Design and Construction

The key differentiators between the 2 schemes for design and construction are set out in the table below:

	Carillion Ave Score	Skanska Ave Score	Key differentiators
Character	4.5	5.0	• The 2 buildings have different characters with Carillion being less formal than Skanska. • The Skanska building has a more classic and timeless feel and its sense of civic presence is better overall with its grand entrance. • The Carillion building has a more generous concourse with a more open entrance • The Skanska concourse has more open views to the side on to the inpatient courtyards.

	Carillion Ave Score	Skanska Ave Score	Key differentiators
Innovation	4.6	4.7	• Both schemes innovate with the arrangement of accommodation around a central street, low energy outputs, medi-rooms and clinical cores in theatres, accommodation of Automated Goods Vehicles • Skanska has a tiny advantage due to single room innovation-interstitial bathroom between regular shaped rooms with external venetian blinds.
Form	4.9	5.1	• Overall the Carillion building looks like it would be more comfortable with a reverse orientation-the smaller units at the back would fit more naturally on the front and the bigger pieces at the front look like they belong in the back garden. However the ward orientation to the east works well for warming the bedrooms in the morning and avoiding overheating in the afternoon. • The back of the Carillion building overlooking the car parks still looks a little unfinished. • The benefit of the Carillion design is that it appears easier to expand although both schemes allow opportunities. • The Skanska building has a more finished feel. • The Skanska building is regular in shape lending it a classic appearance. It fits well with its surroundings using the contours of the site and orientates the wards towards the best views to the west.
Materials	5.1	4.8	• Both schemes offer good quality materials and finishes, particularly inside the building. • Carillion has a more attractive lighting scheme, and wider use of high quality finishes such as floor to ceiling glazing and wooden wall protection systems. • Skanska's proposals are more finely detailed with a greater finesse.
Staff & patient environment	4.7	5.0	• Carillion has good use of natural light throughout patient and staff areas including natural light into most operating theatres. • Skanska has created a multi-height outpatient atrium, widened parts of ward corridors and put in windows as a destination point. • The main advantage of Skanska is the aspect from the patient bedrooms, which have a consistently good view and an outside aspect. Some of the Carillion rooms have a compromised aspect in to the atrium.
Urban and social integration	4.6	4.6	• The master plans are well developed in both schemes. • The Carillion building has a more interesting and effective form when viewed from outside the site. • The Skanska landscape is more sophisticated.
Performance	4.9	4.7	• Both schemes have addressed the issue of sustainability with naturally ventilated wards achieved through orientation away from the west (Carillion) and adoption of external venetian blinds (Skanska). • The Carillion energy model shows the 45GJ/100m3 energy target is more easily achievable than Skanska.
Engineering	4.6	4.2	• Carillion has an embedded energy centre offering a more efficient engineering system with less pipe-run distance. • Carillion has greater spare electrical capacity.

	Carillion Ave Score	Skanska Ave Score	Key differentiators
Construction	4.4	4.0	• Carillion has less derogation from guidance documents, a faster programme with a more integrated approach to phasing and demolitions.
Use	4.4	4.9	• Overall Skanska has shorter travel distances and more connections between key units such as A&E and assessment wards and outpatients and imaging. The use differentials are examined in more detail below.
Access	4.6	5.0	• Both sites work intuitively with a central plaza gathering traffic from the 3 main entrances. • Both schemes encourage use of buses and have made provision for cycle lanes. • The Skanska FM yard is better located for distribution around the Trust retained estate. • The Carillion scheme has more multi-storey car parking with one of the car parks located immediately adjacent to the front entrance. • Internally both schemes gather departments together around a central street. • The Carillion scheme has greater travel distance along its main atrium. • Generally Carillion has a slightly less intuitive layout with additional turns in areas such as theatres and emergency/acute areas.
Space	4.4	4.9	• Overall the more regular form of Skanska leads to less awkward leftover spaces. • The Skanska inpatient room has fewer pinch-points.

7.6.4.2 Clinical

Under the 'use' evaluation criterion, the Clinical Specification Group scored individual areas taking account of the assessments made by each of the sub-groups. Skanska scored highest in 10 of the 11 areas with Carillion scoring higher for theatres. This analysis is shown in the following table:

Area	Carillion	Skanska
Inpatients	5.3	5.5
Ambulatory - OP and Therapies	4.5	5.0
Theatres	5.0	4.5
Imaging	4.5	5.0
Critical Care	4.5	5.0
Clinical Offices	4.0	5.0
EAU and MIMI	4.5	5.0
Emergency Ward	4.5	5.0
Community Hospital	3.0	4.5
Workforce	4.0	4.5
Soft FM	4.0	4.5

The key clinical differentiators are as follows:

Design Area	Differentiating Factors	Rating (H/M/ L)	CSG Final Bid Score Feb 08	
			Ca	Sk
Inpatients	<u>Skanska offered over Carillion:</u>		5.3	5.5
	• Excellent connectivity between units	M		
	• Generous courtyard dimensions	M		
	• Square room design	M		
	• Integration of FM facilities within unit	L		
	• A design that facilitates nursing in 8s	M		
	• No internal inpatient rooms	M		
	<u>Carillion offered over Skanska:</u>			
	• Entry into middle of unit-shorter distances	M		
	• Unit corridors with views and light	M		
	• Clear separation of Clinical/Visitor traffic from dirty FM traffic	L		
	• Higher proportion of glazing	M		
	• H frame hoist as opposed to bed to chair	M		
Outpatients	<u>Skanska offered over Carillion</u>		4.5	5.0
	• Short distance to travel to all clusters	M-H		
	• Some ability to flex between clusters	M		
	• Merged waits with diagnostics and imaging to facilitate 1-stop care	M		
	<u>Carillion offered over Skanska:</u>			
	• Excellent natural light (71% C/E rooms with natural light vs 55% for Skanska)	M		
	• Animation and use of the Concourse	L-M		
Theatres	<u>Skanska offered over Carillion</u>		5.0	4.5
	• Larger number of cabins	M		
	• Simpler routes and access	M		
	<u>Carillion offered over Skanska</u>			
	• Clear access for day of surgery admissions	M		
	• Shorter travel from cabins to theatres	M		
	• Natural light into high proportion of theatres	M		
Imaging	<u>Skanska offered over Carillion:</u>		4.5	5.0
	• Fully developed scheme	M		
	• Connections between imaging and ambulatory and emergency	H		
	<u>Carillion offered over Skanska:</u>			
	• Intra-operative MRI x2	M		

Design Area	Differentiating Factors	Rating (H/M/	CSG Final Bid Score Feb 08	
Critical Care	<u>Skanska offered over Carillion:</u> • Potential for more integrated unit • Better connection to emergency front door <u>Carillion offered over Skanska:</u> • Good patient flows to/from theatres and imaging • Central arrangement of support accommodation	 H M M L	4.5	5.0
Clinical Offices	<u>Skanska offered over Carillion:</u> • Offices distributed throughout the building <u>Carillion offered over Skanska:</u> • Fully worked up layouts	 H L	4.0	5.0
Emergency Assessment Unit and MIMI	<u>Skanska offered over Carillion:</u> • Less deep plan environment • Better flows between Majors and acute beds • More sense of integrated acute unit <u>Carillion offered over Skanska:</u> • Straightforward route from helipad • Cleaner layout of majors	 M H M-H M M	4.5	5.0
Emergency Beds	<u>Skanska offered over Carillion:</u> • No rooms with restricted views out • No cross flows between patients and visitors • Better relationship with emergency front-door <u>Carillion offered over Skanska:</u> • 64 beds using 8 bed hexagonal layouts offering excellent patient observation	 L-M M H H	4.5	5.0
Community Hospital	<u>Skanska offered over Carillion:</u> • Shorter travel distances • Greater opportunity to create a Community Hospital identity <u>Carillion offered over Skanska:</u> • None	 H H	3.0	4.5

7.6.4.3 Deliverability and Approach

The deliverability differentials are summarised in the following table:

	Carillion		Skanska	
	Ave Score	**Commentary**	**Ave Score**	**Commentary**
Commercial	4.5	• The Consortium and its advisors have confirmed acceptance of the Standard Form Project Agreement and Schedules • The Consortium has raised few project-specific issues on the Project Agreement and Schedules. Of those that have been raised, these are agreed with only minor amendments to the drafting. • The Consortium has accepted the Trust position in relation to asbestos and ground contamination as agreed by the Funder's Due Diligence Advisors. • In respect of the Sub-Contract documentation, the scores reflect that although the step down of the Project Agreement and the principle areas of concern to the Trust are generally dealt with adequately, the Consortium has not provided a full step down of all the Schedules. Bevan Brittan's review has revealed no areas of concern in respect of the Sub-Contracts.	3.8	• The Consortium and its advisors have confirmed acceptance of the Standard Form Project Agreement and Schedules • The Consortium has raised a number of project-specific issues on the Project Agreement and Schedules with alternative drafting on some key points. • The Consortium has sought to transfer more risk to the Trust in relation to asbestos and ground contamination. • The Consortium has raised a number of amendments on the Technical Schedules which seeks to transfer more risk to the Trust. • The Consortium has proposed some alternative drafting on some key points in relation to equipment. Whilst this drafting has been accepted by the Trust, this has resulted in an incremental transfer of risk to the Trust. • In respect of the Sub-Contract documentation, the scores reflect that although the step down of the Project Agreement and the principle areas of concern to the Trust are generally dealt with adequately, the Consortium has not provided a full step down of all the Schedules. Bevan Brittan's review has revealed no areas of concern in respect of the Sub-Contracts.

	Carillion		Skanska	
	Ave Score	**Commentary**	**Ave Score**	**Commentary**
Equipping & Commission'g	4.1	• Level of detail to equipment response acceptable. • Category B costs and equipment quantities appear acceptable. • A1 price fix commitment gained. • Fully populated equipment database required. • Slightly high maintenance costs associated with category B.	2.5	• Divergence from Trust proposed equipment categories. • Category B costing and quantity schedule need to be improved. • A1 price fix statement exposes the Trust to risk Fully populated equipment database required. • In general, more information required to support bid.
IT	5.0	• Well designed solution meets all key requirements and offers a robust IT solution.	5.3	• Well designed solution meets all key requirements and offers a robust IT solution.
Financial	4.0	• Reasonable financial response. Separate paper available.	4.2	• Robust financial proposal. Separate paper available.
Project Management	5.0	• Good approach to overall project management shown although the need to develop a new design suggests some errors in understanding and developing design according to Trust brief. • Good consistent approach to project programming. • Good working relationship to date and references suggest [REDACTED].	4.5	• Overall project management has resulted in a well designed scheme meeting Trust brief. • Good working relationship to date but references suggest [REDACTED].
Hard FM	5.0	• Good response to compliance, performance monitoring and quality systems. Clear understanding of their approach to PPM and contract performance within the method statements	4.8	• Good response to compliance, performance monitoring and quality systems. Clear understanding of their approach to PPM and contract performance within the method statements

7.6.4.4 Hard Facilities Management

The capability of each bidder's hard FM provider was assessed as part of the pre-qualification process. Both bidders achieved a satisfactory score for their respective levels of healthcare and other PFI experience. They both scored 'poor' for non PFI healthcare experience which was not considered to be a detrimental issue for this project. In terms of annual turn-over, at £2,236m Carillion Services achieves almost 3 times Skanska UK's turnover (£827m).

7.6.5 Financial Evaluation

The bidders were asked to provide financial models for a number of scenarios. The assessment of Value for Money and selection of preferred bidder was based on the reference bank funded model

assuming full indexation of the unitary payment.

The offers of the two bidders are shown in the following table:

[REDACTED]

The key points illustrated in this table are as follows:

- The Skanska UP at £37.5m is £2.5m (7.1%) higher than the Carillion UP of £35.0m. These are both based on bank finance as the agreed reference bids.
- After adjustment to a 2008/9 price base, adjustments to bring the bids to a like for like basis, to allow for residual issues arising from the bids to be costed, and adjustment for risk between now and financial close, the Skanska UP at £36.0m is £1.5m (4.3%) higher than the Carillion UP of £34.5m.
- Both the adjusted Carillion bank and Skanska bank bids are within the £37.6m UP cap, but Carillion comfortably within by £3.1m while Skanska is £1.6m within.
- The impact of each scheme on operational costs is very similar overall. The areas of difference are as follows:

  - The assessment of energy consumption for each bidder is based on the following:

    - 75% on the contractually under-written level of consumption
    - 25% on the bidder's energy model

    The Carillion scheme is judged to be more energy efficient but it also has a larger heated volume. The net effect is Carillion being a minor £57k per annum lower in cost.

    - A difference in the cleaning costs on 50% of the difference in floor area as part of the other premises running costs. The 50% weighting is applied because the difference in area relates to circulation space rather than heavily cleaned clinical areas. As a result Carillion is judged to have a higher cost by £83k per annum.

- The resultant overall impact of the scheme on Trust expenditure for Skanska is £1.4 (27.6 higher than for Carillion (£6.6m versus £5.1m).

  There are some additional adjustments to affordability based upon additions and omissions as well as acceptable variant bids proposed by the two bidders:

- [REDACTED].

- [REDACTED].

- Various adjustments have been made to bring each scheme up to the agreed Trust specification if their bids contained omissions or additions. This is [£REDACTED] for Carillion and [£REDACTED] for Skanska. In addition, a specific and more material [£REDACTED] addition has been made to Carillion to reflect a requirement for increased space and re-design of theatres.

7.6.6 Value for Money

Value for Money: The net present cost of the Skanska scheme based on discounted cash flows from 2008/9 to 2045/46 is £21.7m (6.7%) higher for Skanska than Carillion. This analysis is shown in the financial appendices 10.xv and 10.v.

Given the 1.4% differential in benefit points between Skanska and Carillion, the net present cost per benefit point is 5.2% greater for Skanska than Carillion as illustrated in the following table:

Table 7.6.6.i Economic appraisal

[REDACTED].

Thus Carillion can be judged to offer better value for money see Appendix 10.xv.

An added consideration is that the costs of the defined area of potential scheme expansion vary significantly between Skanska and Carillion, with the Skanska costs being [REDACTED]% higher for an additional 192 beds and over [REDACTED]% higher for incorporating Women's Services as illustrated in the following table:

Table 7.6.6.ii Bidder prices for potential scheme expansion

[REDACTED]

7.7 COMPARISON WITH PUBLIC SECTOR COMPARATOR

An assessment has been made of the differences between the two bidder scores and the Public Sector Comparator (PSC). This shows that, overall, both bidder schemes perform in excess of the PSC design for the vast majority of the design criteria. A detailed assessment of the PSC against each bidder scheme is provided at Appendix 7.v.

	Carillion Ave Score	Skanska Ave Score	PSC Score	PSC Commentary
Character	4.5	5.0	4.0	Attention paid to space and structure but a more classic and civic approach would be preferred.
Innovation	4.6	4.7	4.0	Acceptable structure with good integration of technical core.
Form	4.9	5.1	4.5	Logical and well structured form with landscape drawn through the building. Good use of site topography.
Materials	5.1	4.8	4.0	Not developed for PSC but assumed to be adequate.
Staff & patient environment	4.7	5.0	4.5	Good approach to bringing external space into the building including good access to light for all ward areas. PSC proposes a high quality environment overall. However, further improvements could be made in bringing more light into building overall, improving outpatient clusters, optimising visibility into single rooms.
Urban and social integration	4.6	4.6	4.5	Permeable and welcoming site designed. Well connected facilities and human in scale. Master plan would benefit from greater legibility.
Performance	4.9	4.7	4.0	Not developed for PSC but assumed to be adequate.
Engineering	4.6	4.2	4.0	Not developed for PSC but assumed to be adequate.
Construction	4.4	4.0	4.0	Separate ward template allows pre-fabrication. Regular shape aids speed of construction.

	Carillion Ave Score	Skanska Ave Score	PSC Score	PSC Commentary
Use	4.4	4.9	4.0	Good separation of flows. Building is flexible and will allow for easy adaptation of use. Some improvements would benefit scheme including visitor access to wards, consistent layout of corridors, more integrated access to FM facilities and improved cohesion between acute and community hospital.
Access	4.6	5.0	3.5	Travel distances are quite long to wards and between wards and imaging. The 'L' shaped wards could lead to orientation difficulties.
Space	4.4	4.9	4.5	Logical and regular buildings offer good space with generous areas.

7.8 CONCLUSION

As a result of the Value for Money analysis defined in this chapter, the Trust Board is minded to appoint Carillion as the preferred bidder.

SECTION 8: BIDDER SOLUTION

8.1 INTRODUCTION

This section describes the Carillion scheme including its scope, design, enabling strategy and its relationship with the Trust's long-term estate planning. A full set of plans are included in Appendix 8.Pi to 8.Pxvi - Plans.

8.2 OVERALL SPECIFICATION AND SCOPE

Carillion have designed an 800 bed hospital on the Southmead site with associated landscape and infrastructure. The hospital is a single phase construction to open at the end of 2013 followed by a second phase of site works.

The Trust has excluded Soft FM services from the PFI deal, based on a qualitative value for money assessment and a quantitative assessment. This analysis was included in the OBC and is shown in Appendix 8.i.

The Trust has also limited the scope to exclude retained estate and managed equipment services.

Detailed clinical output specifications have been provided as part of the ITPD and these are set out in Appendix 8.ii.

8.3 OVERALL SCHEME CHARACTERISTICS

Carillion's proposals have been developed to support the clinical model as described in Section 4, with two key areas of focus:

- The new hospital has a high degree of flexibility to capture changing requirements for healthcare over time including the increase in care provided at home and in community settings.
- The new hospital is designed to provide for the delivery of a sharp increase in efficiency and effectiveness of services.

To deliver these objectives, the hospital has five overarching functional design principles:

- **Principle One**: The hospital is arranged in a number of zones, to provide generic units of accommodation that will be able to flex their use over time:

  - Urgent and Emergency Care Zone.
  - Inpatient Zone.
  - Ambulatory Care Zone.
  - Core Clinical Zone.
  - Support Zone.
  - Integrated Community Hospital providing services within the Ambulatory Care Zone, Urgent & Emergency Care Zone, and Inpatient Zone.

- **Principle Two**: The rooms within the zones have been standardised where possible and designed to cover a variety of uses, to allow change of function over time.

- **Principle Three**: The facilities are designed to create the setting for integrated care packages such that, wherever possible, patients will not have to move around to different services but the services will come to them. This concept has two particular implications:

  - Rooms are designed to accommodate a range of activities, including diagnostic testing.
  - Where this cannot be achieved, diagnostics are arranged so that patients will be able to access them without having to travel down corridors into different departments.

- **Principle Four**: The hospital is designed to encourage team working and in particular to support two concepts, viz. 1) expert teams delivering highly specialist care within the acute hospital; 2) clinical teams providing whole spectrum specialist care across the community and the hospital. The building reflects this team-based, rather than individual, approach and encourages teams to be more closely connected with primary care and community services.

- **Principle Five:** The design achieves a separation of high tech facilities away from lower tech areas such as wards. Within this separation, there are a number of main principles:

  - The core of clinical diagnostic and treatment services is located to enable equal and easy access for both the emergency and acute patients and for ambulatory and community patients.
  - The time, inconvenience and clinical risk of the patient's journey from inpatient units to diagnostic and treatment services have been minimised.
  - The facilities for high-tech clinical services, such as surgical theatres and imaging, are laid out to allow for servicing and support and for adaptability to changing needs.
  - The facilities for lower-tech patient support services, such as inpatient units, are designed to respond to the Trust's model of patient care – patient-focused, and adaptable to changing needs.

8.4 LONG RANGE DEVELOPMENT PLAN

8.4.1 Overview

The Trust identified the need for the development of a clear long range development plan that will ensure that the bidders' building solution is planned within a coherent framework for future growth and change. This long range development plan is an important element of the final design solution.

The LRDP was initially developed by the Trust in three principal stages as part of its Public Sector Comparator development. At each stage, the Trust evaluated the effectiveness of the proposed plan in terms of its requirements. Bristol City Council Local Planning Authority (BCC LPA), the NHS Design Panel and the CABE Design Panel also commented on the proposals in urban design terms. The Carillion scheme builds on this sound framework and provides a coherent strategy for the site:

8.4.2 Public Realm

- **Southmead Square**: The principal public realm focus within the site, intended to be pivotal to how the hospital works functionally and socially. It is located at the intersection of three main site axes and logically the point where people will arrive by public transport, and where most will meet and orientate themselves. It is designed to function as the symbolic 'heart' of the hospital, where clinical becomes united with other sectors, and where vehicular becomes pedestrian. It also has the potential to become a key focus within the greater Southmead community.

- Southmead Square is defined by a space-defining structure of large scale trees, and addressed by existing historic buildings along its north western edge, and either by the fronts of new building or careful landscape on the other three sides. It is edged by roads, and has a sensitive integration of off street parking. This, in conjunction with the presence of a bus interchange, further reinforces its performance as the hub. The edges of Southmead Square are strongly defined by new and historic structures.

- **Esplanade**: The Esplanade, as a key axial route into the heart of the site from an existing, established entrance point, has a treatment appropriate to its status, and is edged on each side by one row of large scale, broad canopied trees.

- **Building courtyards, atria and terraces**: The incorporation of courtyards, and atria, in the design of buildings brings positive therapeutic gains for patients, relaxation for staff, and interest for visitors. Discrete building-related external spaces can allow for sensory gardens, whose design can be focused around specific therapeutic need.

- **Art in the landscape**: all of the areas described above will not only provide settings for appropriate art, but will also provide opportunities for collaboration between landscape architect and artist to create especially evocative, life-affirming environments. These are defined in Carillion's Arts Strategy.

- **Academic Sector**: The organisation of academic buildings around a central square evokes a classic collegiate quadrangle befitting of its academic association.

Land Form, Sunlight and Views: The LRDP makes positive use of these site characteristics. It utilises the three-storey height differential across the hospital site to enable the separation of public, clinical and service traffic.

Further measures are also proposed:

- All of the vehicular entrance points and principle external areas are open to public use.

- An additional access point for pedestrians is provided in the north east part of the site thereby increasing permeability.

- There will be no discrepancy in quality between the varied faces of the site buildings; rather, each will appropriately reflect its use and its relationship to its neighbour.

- In certain instances, such as along the southwest and southeast edges of the site which is shared with backyards of adjacent residences, plant screens will be extended and reinforced.

8.4.3 Site Sectors

The LRDP proposes that the Southmead site will be sectored as follows: acute/integrated community hospital, academic, support, expansion and mental health.

The expansion sector includes both the current area of land occupied by the Trust's women's services and the western part of the site behind the main building. The mental health sector is under the ownership and control of another Trust (Avon and Wiltshire Mental Health Partnership), but occupies a key part of the Southmead site and therefore figures in the LRDP.

The academic sector includes the pathology, learning and research areas and laboratories which are part of the enabling programme and with which synergies between laboratory and academic uses are anticipated.

The acute and integrated community hospital sector shares a common core of diagnostic, treatment and clinical support services.

8.4.4 Traffic Flow and Car Parking

Public & staff: Private cars and taxis (public traffic) will access the site from Monk's Park Avenue and Southmead Road. Dorian Road will be reserved for buses, blue light and staff access. The main hospital routes lead to a central loop of circulation in front of the main entrance to the hospital and to most of the public car parking.

Bus, Service, Blue Light Traffic & Helicopter: Blue-light vehicles will access the site via the most convenient entrance. However the main access is via Dorian Way, which leads directly to the emergency entrance. Blue-light vehicles entering the site via the Monk's Park Avenue entrance will travel through un-segregated traffic.

Emergency transport by helicopter will be via a ground based emergency helicopter landing facility located to the west of the emergency entrance.

Buses will be encouraged to enter and exit the site via Dorian Way and Southmead Road, and loop around the central plaza, thereby enabling an essentially straight route to the site with stops close to the Urgent & Emergency department and the main entrance.

Service vehicle movements will be segregated from the main central public roads with a road leading directly to the facilities management receiving and distribution areas. Although vehicles accessing the laboratories must travel deeper into the site, the great majority of service traffic will not burden the site road system.

Traffic Direction: The Trust anticipates that all roads within the site will be two-way, with the exception of the road that passes in front of the main hospital. Movement on the latter will be from east to west to facilitate passenger drop-off directly adjacent to the pavement which leads directly to the main entrance hall of the hospital.

Car Parking: The Local Planning Authority has agreed to the Trust's proposal for a total of 2,700 car parking spaces on site, an increase of over 1,000 spaces above the existing provision. This new requirement will be met by grade and multi-storey car parking in a number of locations across the site. Staff parking will be separated from public parking and staff will have a direct route into the new facility from their main car park to the north west of the new hospital. Public car parking including access parking will be available in one of two multi-storey car parks, which is attached to the front of the hospital.

8.5 PFI HOSPITAL PHASING

The PFI project is of sufficient scope to enable the realisation of most of the key features of the LRDP, the remainder being achievable incrementally over time in response to evolving needs and budgets. The PFI project would be implemented in two principal phases: an initial phase which would deliver the bulk of the facilities and a final phase in which the landscape and parking would be completed.

8.5.1 Initial Phase of PFI Development

The proposal enables the main building to be completed in a single initial phase of PFI construction.

A multi-storey car park will be built at an early stage within phase 1 to enable the main PFI site to be transferred to the bidders.

8.5.2 Final Phase of PFI Development

Following completion of the initial phase, the design solution enables the remainder of the PFI development to be concluded in a single final phase. This includes completion of site works, final car parking plans and landscape.

8.5.3 Post PFI, Incremental Development

The LRDP indicates how the facilities and site can adjust to future needs. The main hospital building has inherent flexibility and has potential for considerable expansion of core clinical services, out-patient services and inpatient accommodation to the west. In addition, the sites of Monk's Park House and the women's sector will be available to accommodate future needs as required.

8.6 ARCHITECTURE AND FORM

The Carillion scheme is an elegant and well-formed building that addresses the spaces around it in an orderly and structured way. The building has a number of features that make it stand out including:

- There is a purposeful and dynamic concourse, leading to important waiting and entrance points along its entire length – daylight entering not only from above, but from both sides as well.

- The front of the concourse is well resolved architecturally and provides a welcoming entrance to the hospital from Southmead Square.
- The waiting areas and principal circulation to outpatient areas align with garden areas.
- The hospital street that runs along the upper levels of the concourse has been cleverly designed to enhance openness and transparency, whilst dealing with fire safely issues.
- The stack of entrances to wards has been configured to provide transparency and orientation and flows, whilst animating the concourse.

- There are a series of adjoining ward fingers that enable staff flows, whilst reinforcing and animating the edge of the ward blocks along Dorian Way.
- The scheme demonstrates a full and effective integration of interior design, architecture, landscape and art.

- The exterior elevations are elegant and place balconies outside of patient rooms – similar to a number of German and Swiss hospitals. These offer a less institutional, more residential character to the ward blocks.
- The Southmead Square is enriched with the retention of the original workhouse buildings including the old laundry building. This has the advantage of reinforcing the interplay of the new hospital with its historic roots.
- The scheme successfully connects rooms and circulation within the building to elegantly designed courtyards and landscape.

8.7 ARRANGEMENT OF SERVICES

This section describes the hospital that has been developed within the site masterplan.

8.7.1 Overall Approach

The new hospital building is conceived as a structure which enables a core of advanced clinical services to be accessed by emergency and acute patients from one side and by scheduled and ambulatory hospital patients from the other.

At each level, the building enables the placement of inpatient accommodation that is aligned with closely related clinical services (i.e., surgical patients are located in units adjacent to theatres; assessment units are located adjacent to A&E, etc). Further, the concept is based on the juxtaposition of two principal building types that can accommodate the majority of hospital services: technology-focused, and patient-focused. Used together they offer considerable benefits in planning flexibility, sustainability, and the provision of supportive environments for their users.

These building elements are linked by a grand concourse along the lines of the Riks Hospital in Oslo, which separates public, outpatient, inpatient and service traffic and offers features such as light-filled atria, galleries, break-out spaces and accessible green spaces that enable ease of use and sense of well being.

8.7.2 Technology Focused Blocks

Technology-focused (high-tech) blocks provide broad, heavily-serviced floor-plates that enable the efficient planning of clinical services that are dependent on repetitive clusters of large high-tech rooms such as surgical theatres, imaging, and other diagnostic functions. It also provides for efficient clustering of numerous, repetitive clinic modules and diagnostic services.

Regular patterns of structure, mechanical and electrical services enable modification to these areas as required. The consolidation of high-tech functions in a limited area concentrates those areas of the hospital that are expensive to build and operate into the most efficient package.

Although driven to support advanced medical technology and procedure, the technology-focused blocks have been developed to create favourable user environments with access to natural light where possible. A comprehensive interior design strategy has been applied to these areas as well as to the staff and patient-focused areas.

8.7.3 Patient Focused Accommodation

Patient-focused accommodation has different requirements from the above: the requirement for 75% single rooms enables the practical use of natural ventilation; bed-ridden patients benefit especially from favourable views, access to gardens and the play of sunlight and efficient inpatient units can be planned in narrower, shallow-plan footprints.

The resulting building type for patient accommodation is people-focused, close to nature, low-tech, and flexible in a unique way whilst enabling the use of standardised rooms. It stands in sharp contrast to the requirements of the technology-focused blocks.

8.7.4 Overall Zonal Principles

The blocks within the hospital have been divided into zones to provide the opportunity to group elements of accommodation which have a particular purpose and/or a requirement for a particular type of accommodation. The Trust intends that this will have a number of benefits including:

- The ability to flex use within the zones over time and increase or decrease capacity within areas within each zone.
- Logical way finding and the ability to stream patients, staff, visitors and goods into the correct area as simply as possible.
- Simple and efficient construction with the ability to group types of rooms e.g. high-tech into the same part of the hospital.

- An energy efficient building with naturally ventilated areas collected in logical groupings, separate to heavily engineered environments.

The Trust recognises however, that the zonal approach could lead to difficulties in wrapping the environment around patient journeys and care processes. For example, the Trust is attempting to provide more one-stop services including assessment, treatment and diagnosis. The zones therefore, may require some melting of the edges to achieve this.

The aspiration to create team working across the whole health system needs to be accommodated by the zones. In particular, the requirement to create team bases where they have a connection with both community and acute services needs to be considered.

A summary of the zones is given below:

8.7.5 Urgent and Emergency Care Zone

The Urgent and Emergency Care Zone includes:

- An Urgent Care Service (including minor injury and minor illness services) that will assess and treat adults and children.

- An Emergency Assessment Unit (EAU) for trauma, medical and surgical emergency adult patients. This will act as a single concentrated emergency front-door to the hospital and will be linked in to other emergency and acute services around the area including the ambulance services, the emergency services at the Bristol Royal Infirmary and acute outreach services. Children will only be admitted to the EAU to be stabilised prior to transfer to the Bristol Children's Hospital.

The main design principles are:

- The combining of all emergency receiving services into an integrated front-end of the hospital with the capacity to assess/diagnose and treat unplanned patients.
- The capacity for this service to link into a wider emergency network with sophisticated, state-of-the-art communication and tracking systems.
- The integration of minor injury, minor illness, GP out of hours and GP triage services into a single urgent care service capable of working as a network with other units around the Bristol and South Gloucestershire area with similar communication requirements.

The beds in this zone are arranged into two large sections of 64 beds each with one section having a wider floor-plate to accommodate a series of high visibility circular bed groupings.

The services in this zone will adopt a 'see & treat' principle.

8.7.6 Inpatient Zone

This zone consists of generic inpatient units providing maximum flexibility to allow for changes in medical, nursing and therapy needs of patients, changes in models of care and service delivery and future reconfiguration and expansion. There is a pattern of beds building up from a series of 8 beds within 32 bed units that in turn are grouped into larger clusters of 64. The dominant design principle in this zone is the avoidance of individual and isolated wards in favour of a more fluid clustering of beds.

The IP zone includes:

- 576 beds in the inpatient zone including a 16 bed coronary care unit provided as a part of a larger inpatient bedded unit.
- A 32 bed community cluster (part of the integrated community hospital).
- A 48 bedded critical care unit.
- 128 beds in the urgent and emergency care zone.
- 16 emergency assessment places.

Elective patients will generally be admitted on the day of intervention or investigation having already undergone pre-operative assessment. These patients will be admitted into ward areas from operating theatres, diagnostic departments or the integrated critical care unit.

Emergency patients admitted via the Emergency Assessment Unit ('EAU') will have undergone early investigation and stabilisation and will have an initial treatment plan.

8.7.7 Ambulatory Care Zone

This zone provides services for patients who attend for an outpatient appointment, an outpatient procedure, a diagnostic procedure or a medical day procedure.
The ambulatory care zone is designed on the principles that:

- The consulting, treatment and examination spaces are generic and can be used for a variety of purposes.
- Where appropriate, patients can receive all their treatment in a single area without having to move around the hospital.
- The principle of combined community and hospital teams with the ability to respond rapidly to primary care is encouraged by the design.

This Zone includes:

- A medical day care unit.
- A 15 station acute renal dialysis unit.
- Specialist cardiac, respiratory, urological, vascular and neurophysiology diagnostic investigation facilities.
- 14 outpatient clusters including one community cluster (including testing facilities) and two clusters for clinical research trials.
- Ambulatory therapy services including physiotherapy, occupational therapy, dietetics, speech and language therapy and podiatry.
- Team bases.

8.7.8 Core Clinical Zones

These zones provide the essential high quality complex clinical support services to inpatients, outpatients and community patients. These services are located to ensure that services are easily accessed from the urgent and emergency care, inpatient and ambulatory care zones as appropriate, to facilitate the best possible patient flows.
These zones include:

- Imaging including 10 plain film, four Magnetic Resonance Imaging ('MRI'), four Computerised Tomography ('CT'), six ultrasound, two fluoroscopy, two nuclear medicine, one PET Scanner, one lithotripsy and two cardiac catheterisation suites.
- Operating theatres and interventional imaging housed in 28 standard suites.
- Four Endoscopy suites.
- Re-ablement services including physiotherapy, and occupational therapy.
- Other clinical support services, including pharmacy, medical illustration, medical equipping and body store.

Core pathology services are provided in separate buildings on the North of the site.

8.7.9 Support Zones

These zones provide the essential non-clinical support services. These include the following:

- Soft FM services
- Corporate services
- IM&T services

The scheme includes open plan offices and a number of other key staff facilities that have been carefully planned and designed to give a light comfortable and airy feel.

The scheme includes a lower ground floor that acts as a distribution floor for goods and services. The design incorporates a robotic distribution system with the robots using the lifts to move from the basement to the front-line service departments.

8.7.10 Soft FM and Retained Estate

The scope of Soft FM services has been designed to ensure that a fully integrated and efficient service is available to the Trust. The Trust will continue to be directly responsible for the following Hard & Soft FM services:

- Patient and staff catering
- Domestic & portering services
- Linen & laundry services
- Reprographics
- Voluntary services
- Transport services (internal and non-emergency patient)
- Primary helpdesk
- Estates maintenance services (retained Estate)
- Grounds maintenance (retained Estate)
- Pest control (retained Estate)
- Receipt & distribution services

With the exception of the estates maintenance and grounds and gardens service for the retained estate, the Trust will operate the Soft FM services from the combined facilities management centre in the lower ground floor of the hospital. This centre will manage all deliveries of goods and services to this location.

The competitive dialogue process has helped inform the following service models and aspirations for Soft FM services:

- The Trust has determined that a cook chill model for staff and patients catering is the preferred permanent solution. However, for the interim catering solution, due to engineering infrastructure and ward staffing constraints a status quo service model will be adopted. Additionally with space being designed flexibly, there will be the opportunity for the Trust to adopt other food production methods in the future, should the market in this respect mature. A central food production unit will remain on site, which will also supply the maternity unit and in-patients on the Frenchay site should this be required.

- A restaurant will be operated for staff only, which will also incorporate managed vending for night staff and/or a call order food service that will operate during out of normal hours. It is envisaged that once the interim catering solution moves into the new building a restaurant/café pod will be left behind to support staff/visitors in the location of the new pathology & academic buildings. It is likely this facility will be operated on a concession basis by a third party and not by the Trust.

- A central FM hub will be established as part of the design to support clinical activity within aggregations of 64 beds. This will bring together for the first time a central re-generation kitchen, storage for linen & laundry, waste and general consumables. This will be serviced by local FM staff based at ward level who will then break out supplies to 32, 8 and single bed level. Each ward will enjoy its own pantry kitchen serving beverages, breakfast and snacks.

- Each FM hub will be serviced by dedicated FM lifts from the central Facilities Management Centre with no cross over onto patient or staff corridors. The Trust is also aspiring to utilise Automated Guided Vehicles to deliver and collect both scheduled and ad-hoc goods from the FM Centre directly into each FM hub. Similar hubs will be incorporated into other clinical and non-clinical areas to support the proposed service model.

- Soft FM services will be delivered on a zonal basis, making best use of technology and flexibility of staff, functions and role.

- The Trust will introduce ward housekeepers in addition to the present ward domestic. These two functions will work alongside and support each other to enhance the patients' experience but in many respects be separate in function and the duties undertaken.

- It is envisaged that linen and laundry services will be a fully managed outsourced service. Sufficient stocks will be held at the central FM hub level supporting 64 beds with daily top up.

- A primary helpdesk will be set up within the FM centre, co-located with the secondary helpdesk operated by Project Co. The primary helpdesk will manage all calls for both the retained estate and new PFI building. Any relevant calls relating to the new building will be logged then automatically passed onto the secondary helpdesk for action. This arrangement will work well with response and rectification times under the Project Agreement.

- The Transport department will be situated in two locations, the FM Centre and on the main hospital concourse. The latter location will operate the non-emergency transport booking service which also will be co-located with the new hospital's main reception.

- Portering services will operate from a pool located in the FM Centre to support wards and departments, making best use of technology to improve their efficiency.

- The design of space for the proposed receipt and distribution service takes into account the potential development of initiatives such as off-site consolidation. The service model also supports the area being used as a pass through for supplies and not a general main/bulk store for the site.

- Accommodation for estates maintenance for the retained estate will be addressed as part of the relocation of the current estates department under the advanced enabling programme.

The design of the FM yard has also been organised to ensure no visual or noise impact on adjacent clinical areas. Equally, landscaping and elevations, relative to the impact on the local community, have been taken into account. Flows from and to the main hospital, with the exception of direct deliveries to remote buildings such as maternity or pathology, will be through the central FM yard. Internal deliveries around the site will then be made by directly internally managed transport.

8.7.11 Integrated Community Hospital

The community hospital is integrated within the acute facility. This provides a unique identity for the community hospital whilst incorporating the individual elements into the overall design to provide future flexibility.
The main components of the community hospital are:

- MIMI - urgent care including minor injury and illness services.
- Ambulatory care including community therapy services.
- Community beds for rehabilitation.

8.8. SUSTAINABILITY AND REGENERATION

The Trust set high requirements for the achievement of a sustainable development. It sought specialist advice and support from the Waste and Resource Action Programme (WRAP) and the Carbon Trust in developing the detailed ITPD specifications. It also appointed a specialist environmental consultancy, NIFES, to act as advisor on sustainability issues throughout the course of the competitive dialogue process. A member of the Bristol City Council Sustainability team was invited to and became a member of the Trust's Sustainability Group that was established to ensure a sustainable development was achieved.

The new hospital will deliver the following sustainability benefits:

- An energy consumption target of 40GJ/100m^3 which is below the national ceiling of 55GJ/100m^3.

- Use of energy saving technologies wherever possible.

- Twenty percent of energy to be delivered through renewable sources for the operation of the facility. This will primarily be achieved through the use of bio-fuels. This is in excess of Bristol City Council's requirement for 10% renewables as planning policy.

- Achievement of a carbon target of no more than 3.434Te/100m^3 carbon production.

- An 'Excellent' rating Building Research Establishment Environmental Assessment Method (BREEAM for Healthcare).

- A Site Waste Management Plan (SWMP) for the scheme to minimise the transfer of waste to landfill and maximise reuse or recycling of waste generated by the construction. The target for construction waste to be reused or recycled after processing is set at 90%. In addition, 90% of demolition waste will be reused.

- 30% recycled content by value to be used in the construction of the new facility (in excess of the percentage requirement set down for other building developments at the time of the drafting of the specification and in excess of the Trust's target of 20%).

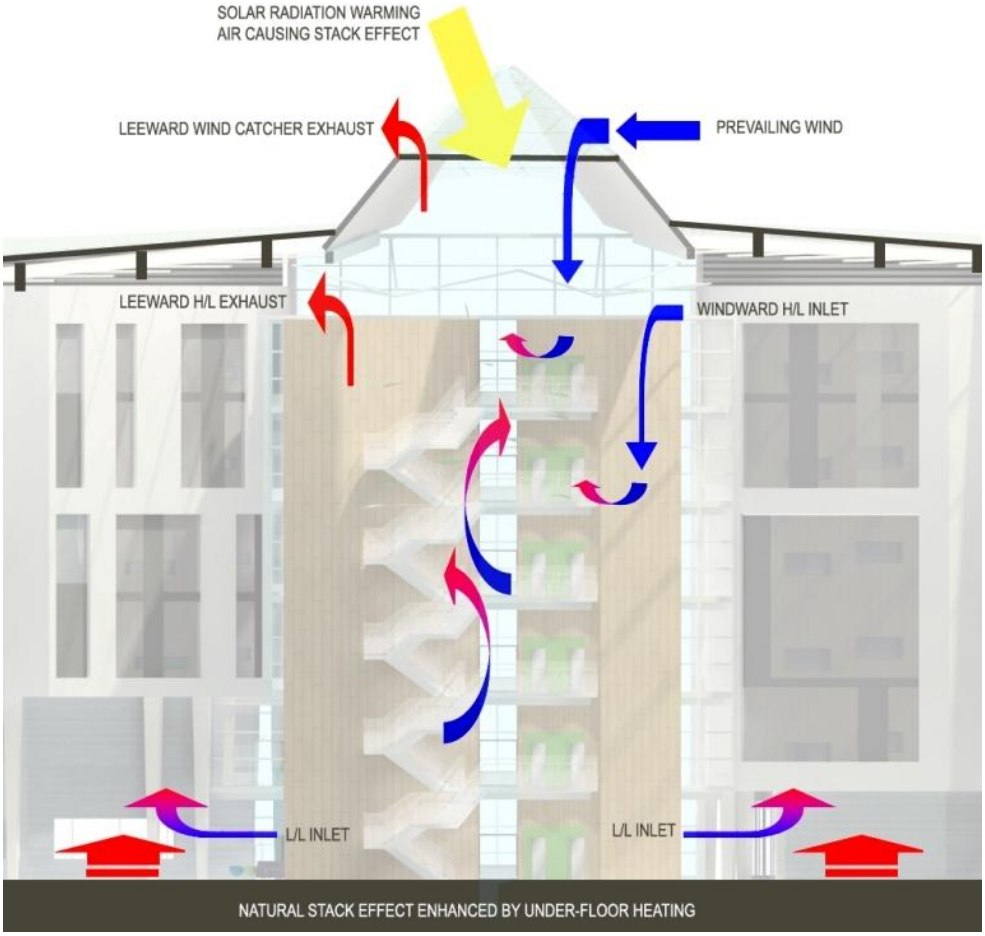
- Maximum use of sustainable materials and avoidance of products such as PVC.

- Provision of recycling facilities within the site and at ward level for staff and the public.

- Provision of a waste composting system to enable all hospital food waste to be diverted from landfill (estimated at 13 tonnes per annum).

- Development of routes through the site for pedestrians and cyclists and provision of cycling facilities to encourage the shift away from car use. Provision of secure storage for 300 cycles in the main visitor car park including changing rooms, showers, lockers and a cycle repair shop. Hoops for an additional 230 cycles across the site. Cycle lanes within the site which link with the Bristol cycle network. Space for 45 motorcycles in covered accommodation.

- Excellent bus routes through the hospital site with drop off points at the front entrance and the emergency entrance (subject to bus operator confirmation).



The low energy target will be delivered through a range of measures including:

- Making use of the deep elevations by installing 200 to 250mm of insulation giving a U-value of 0.18 to 0.22W/m^2K compared with a Building Regulations requirement of 0.35 W/m^2K.

- Natural ventilation maximised including wind tower effect to cool and ventilate concourse and natural ventilation in multi storey car parks.

- Double glazing utilised throughout with a more generous argon filled 'air gap' and thermally broken framing.

- Eastward ward orientation takes warming sun in morning but excludes hot pm sun.

- Generous provision of natural daylight combined with smart controls to switch off lights when they are not needed.

- Appropriate glass coating technologies will be used to retain heat in winter and limit solar heat gain in summer, whilst avoiding any unpleasant 'Dubai' mirror glass effect.

- Roof glazing designed with orientation, solar shading and glazing technology carefully considered to control solar gain.

- Energy centre embedded in hospital building reduces distribution losses.
- Energy efficient luminaries and lamps utilised.

- Modern M&E installation including:

  - BMS controlled two port valves applied to heat emitter circuits,
  - temperature/air handling set back reducing energy usage when departments are not in use,
  - chilled beams reduce the volume of air required for ventilation,
  - variable speed heating and cold water pumps minimise pumping power

In addition, the placement of clinical services into building types that are especially suited to their use, as described above, provides a sound starting point for sustainable hospital planning. The new hospital shows how thoughtful architecture can further these objectives, i.e. through the use of landscaped gardens and courtyards providing natural climate control , thoughtfully developed soft and hard roof surfaces, naturally ventilated atria and gallery-circulation spaces, use of thermal mass of structure and cladding, and roof-top solar collectors.

These initiatives not only boost the energy efficiency of the building, but also positively contribute to the green environment that permeates these facilities. Further measures contributing to sustainability may have a less direct impact on building form and user-experienced environments, but may be equally important in achieving sustainability.

Carillion has confirmed that it will recruit from the local area, either directly or via its local supply chain, 85% of the workforce needed to provide the new facilities – providing a major source of employment during the current economic downturn.

They have agreed a range of targets with the Trust for training and development as follows:

- 75 apprenticeship completions directly resulting from this initiative.
- Maintain at least 8% of the workforce in recognised training schemes throughout the project duration.
- Directly employ at least two apprentices throughout the 30 year concession.
- Employ at least five construction graduates throughout the construction phase.
- Maintain at least five further education placements throughout the construction phase (in association with the University of the West of England Faculty of the Built Environment).

8.9 ESTATES STRATEGY AND RECONFIGURATION

The NBT estate reconfiguration comprises both P21 and PFI developments to provide buildings facilities and infrastructure that underpin healthcare in a 21st century setting, and which take proper account of the increasing complexity of health care, business continuity and the legislative framework. These are all substantially different from those in place as the Southmead site developed over the last 100 years.

There will be both retained and PFI estate on the Southmead site, each will contribute to the delivery of health care, with the science and academic sections currently under construction as part of the P21 enabling process.

The enabling process is ensuring that there will be continuity of service throughout the demolition, clearance and construction elements of both P21 and PFI project streams. The Trust's construction requirements identified to the bidders what was required of them to deliver in the new facilities, and as part of the competitive dialogue process there was engagement with each bidder to identify the best ways to achieve continuity and whether the Trust or the PFI bidder were best placed to deliver the solution.

This identified the need to bring new infrastructure to site, and to rearrange the existing infrastructure, broadly in line with the construction boundary. The re-provision of services within the retained estate is being undertaken by the Trust, with design and implementation of the solutions required to support the PFI estate being delivered by Project Co. The Trust is developing its plan to operationally maintain the reprovided plant and systems for the buildings it will continue to operate in the PFI estate until the new facilities are opened, given that there are no interim services in the scheme.

In broad terms the Trust will be decentralising heating and hot water services within the retained estate to allow the early clearance of the existing energy centre. The Trust has recognised the benefits of bringing new HV infrastructure to the site at the earliest opportunity to allow a reconfiguration of the site electrical supplies in a way that complements the redevelopment process and secures a diminishing resource. By progressing this element of the work ahead of the main scheme, the Trust is seeking to secure capacity at the Distribution Network Operator's Filton site.

Other work is ongoing to segregate piped medical gases, medical air, surgical air, fire alarm and low voltage electricity infrastructure ahead of financial close to simplify as far as possible the matrix of responsibilities for shared infrastructure and services.

By the end of both the PFI and P21 processes, the Trust will have a modern estate, suitable for the delivery of health care in the 21st-century. The subsequent operation and maintenance of these new and refurbished assets will be in a manner that is sustainable, and supports business continuity and promotes patient safety and well-being, and delivers a consistent quality of service across the entire estate.

Bid compliance with the Trust's construction requirements ensures that the Trusts requirements and aspiration for its new estate will be met.

8.10 ENABLING STRATEGY

8.10.1 OBC Assumptions

The Outline Business Case identified that there would be a requirement for a comprehensive enabling programme to clear and prepare the Southmead Hospital site in readiness for the new hospital development.

Following approval of the OBC by the Strategic Health Authority, work has been undertaken to further develop the programme of enabling works in respect of content, options, costs and timescales and to further refine the assumptions made in the OBC. Account has been taken of revised assessments of the best use of the site and the retained estate.

This section of the ABC explains the changes which have been made, since approval of the OBC, to the scope of works to be undertaken by the Trust in advance of achieving Financial Close and also details the progress made in delivery of the enabling programme.

It should be noted that the OBC identified three stages to the construction strategy:

- **Enabling works:** majority to be completed prior to the signing of Preferred Bidder Letter with a potential PFI partner.
- **Advanced works:** rationalisation which is specific to the selected development scheme which needs to be complete by Financial Close.
- **PFI contract.**

8.10.2 Changes since Submission of the OBC

The OBC included a draft transition plan, acknowledging that it needed to be further developed. Subsequently a number of changes have been agreed, the most significant of which are outlined below.

8.10.3 Academic Centre and Pathology Sciences Developments

The SHA approved the Business Case for the development of an Academic Centre (now to be known as Learning and Research) on the Southmead site in March 2007 and the Business Case for the centralisation and modernisation of NBT Pathology Services in April 2007.

The footprint identified as the most likely PFI development site has been redefined and now includes the Lewis Laboratories which currently houses the Biochemistry Department and the Regional Cytogenenetics service. Inclusion of the Lewis Laboratories within the PFI development site reflected the need not only to ensure that the location and size of the development site was appropriate to the needs of the new PFI development, but also the benefits of establishing a unified Blood Sciences Pathology Department as detailed in the Pathology Service Business Case.

The OBC had assumed that under the Southmead South Option, Elgar House would be retained as the focus for learning and research. This has been superseded and following agreement of the ProCure 21 contract with the Trust's Principal Supply Chain Partner, Laing O'Rourke, a major construction development is underway on the site of the former Tyndalls Way car park to provide new Learning and Research and Pathology Sciences facilities. This development has been designed to be compatible with the master plan for future development of the site with land earmarked for subsequent phases to accommodate the residual academic, research and pathology requirements as all clinical and non-clinical services migrate to the Southmead site. Construction work is currently scheduled for completion in October 2009.

It is now the intention that Elgar House will be demolished to make way for Phase II of the Learning and Research development.

8.10.4 Malvern Ward

The transition plan included within the OBC suggested that Malvern Ward be converted to provide a temporary staff dining area. Proposals developed by Carillion require relocation of the catering department on the Southmead site which includes central food production unit facilities and the staff and visitor restaurant. Malvern Ward will now either be demolished or retained in the short term as potential additional bed capacity. It will not be used as a catering facility.

8.10.5 Link Block

The OBC had included a proposal for a new "Link Block" between the Avon Orthopaedic Centre and the new hospital development to accommodate pharmacy, imaging (part) and dining facilities. However, this is now not required by the Carillion design.

8.10.6 Imaging

The OBC assumed that the Radiology extension which accommodates the MRI Scanner and CT facilities would be replaced. Given the complexity involved, it was decided that this was not appropriate as part of the pre PFI Enabling Programme, but these works now form part of Carillion's Advanced Enabling Works.

8.10.7 Scope of the Pre PFI Enabling Programme

The following principles were agreed to govern the development of the pre PFI enabling programme:

- Wherever possible, services should be relocated once only to their permanent location, thus minimising costs and service disruption.
- Investment in enabling schemes should be compatible with the overall site development plans and should offset costs associated with the preferred option identified in the OBC.
- The plan should facilitate segregation of the site to separate the site available to the PFI contractor from the areas of the site remaining in operational use.
- Transition plan to be compatible with early delivery of performance improvements and service re-design assumptions in the OBC.
- Changes to clinical service configuration to be compatible with the activity and performance assumptions detailed in the OBC.
- Ensure seamless service delivery.
- Ensure best value for money.

- Capital schemes being undertaken outside of the main PFI development should be planned to provide capacity which can be utilised on a long term basis consistent with the long term Site Development Control Plan.
- Maintain site flexibility as far as practicable.

Priority has been accorded to:

Critical site infrastructure enabling schemes to ensure continuity of utilities, heating, hot water, IT and telecommunication services for the Southmead site during the construction phase, whilst also ensuring clearance of infrastructure services from the development site.

Relocation of departments to ensure vacation of the development site:

- Bristol North Academy, Postgraduate Centre, Library
- Medical School Teaching Unit and the Lifeline Building
- Pathology sciences-Lewis Laboratories
- Transport/Linen Exchange
- R Ward
- Silver Building which includes:

    - Estates Maintenance Services: office base and workshops
    - Estates Capital Services
    - IT specialist plant room and main data centre
    - IT Department offices and Helpdesk
    - DSC Wheelchair Services
    - Catering Stores
    - Training Rooms
    - Paediatric Rheumatology Offices

Learning and Research Enabling Projects: in order to clear the site for this scheme, it was necessary to relocate the Diabetes and Psychology Departments, residential accommodation and two mobile phone masts.

Demolition cost of buildings within the development site.

Replacement car parking required to facilitate vacation of the Tyndalls Way car park which previously provided spaces for 282 cars.

8.10.8 Pre PFI Enabling Programme Capital Costs

The capital costs are being funded by a combination of public dividend capital, capital funding from Trust depreciation monies and a contribution agreed with the University of Bristol towards the costs of the Learning and Research Development.

The OBC included approval of £26m PDC funding towards the costs of the Enabling Programme. This was at MIPS 455. Inflationary uplift to MIPS 514 increases this to £30.40m.

PDC capital funding is committed as follows:

Project	£000
Learning and Research Development	17.60
Learning and Research Enabling	0.90
Utilities	4.70
Data Centre	5.00
Linen/Transport/Silver Building, etc	1.70
Demolitions	0.50
Total	**30.40**

NB: Total forecast outturn cost of the Learning and Research Development is £24.124m but an additional funding contribution is being made by the University of Bristol and from Trust internally generated resources. Also, the development is being managed as a single P21 contract which also includes the Pathology Sciences Development.

Separate funding of £22.4m was approved by the SHA to support the Pathology Sciences (Lewis Laboratories) development.

8.10.9 PFI Advanced Enabling Works

There are a number of additional schemes which will constitute a programme of Advanced Enabling Works undertaken by Carillion. Completion of these works produces an improvement in overall affordability and the value for money position. Three main categories of schemes are proposed to be undertaken as advanced enabling works:

Project
Demolitions
Utilities: - Infrastructure services including: - electrical diversions, medical gases, drainage, etc - HV infrastructure works
Development site footprint: - Catering re-provision - Pharmacy/imaging re-provision - Clinical engineering re-provision - Diabetes re-provision - AOC offices and WRVS re-provision

These works are subject to an advanced works agreement that follows standard form and the principles of which were agreed in competition and approved by the DH.

8.11 EQUIPPING

There are a number of principles the Trust has applied in determining the equipment strategy for the development:

- There are significant numbers of specialist and high value equipment items within this major Project, together with high multiples of a range of low and medium cost items.

- The equipment costs at ABC stage are within the affordability of the project for both capital procurement and capital charges revenue consequences and that the responsibilities for the provision of equipment support this position.

- The Trust adopted PFI equipment categories A1, A2, B, C, D, F2, and P.

- Schedule 13 of the ITPD confirmed definitions of the categories to bidders and provided a detailed list of equipment items that might fall into each category.

- Schedule 13 also contains an equipment responsibility matrix which indicates responsibilities for the supply, commissioning/ installation, maintenance, replacement of each item of equipment.

- The Trust believes that the decisions made represent best value for money and provide appropriate transfer of risk to Carillion.

- Carillion will supply, install, maintain and lifecycle all category A and F2 equipment and has issued specifications accordingly. The Trust issued specifications for categories A2 and F2 and retains selection rights for these categories.

- Carillion will also supply and install all Category B equipment. The Trust has issued generic specifications and will have selection rights from the main manufacturers of this equipment (predominantly fixed Imaging).

- The Trust will supply all Category C&D equipment either as new or transfers. It is envisaged that the transfer assumptions contained within the OBC confirmed in competitive dialogue are realistic.

- The Trust is aiming to provide as much new 'front of house' furniture as possible.

- The new hospital development will represent a significant improvement in healthcare facilities and environments for service users, visitors and staff. This ABC recognises the importance of ensuring that a positive relationship between equipment and design is established in order to ensure that operational functionality. In addition it is recognised that furniture and fittings are important contributors to ensuring a positive patient and visitor experience.

In order to establish how the provision of equipment would be managed, NBT developed the following process:

- High-level quantification of equipment requirements at OBC.
- Identification of responsibilities for equipment.
- Detailed quantification and development of equipment requirements within the documentation.
- Quantification of Trust provided equipment - transferred and new.

The following sections describe each of the above stages:

8.11.1 Identification of Responsibilities for Equipment

The following Equipment Responsibilities Matrix (ERM) was developed and issued to bidders. It also formed the basis of database issue:

Equipment Category	Supply	Installation/ Commissioning	Maintenance	Replacement
A1	Carillion	Carillion	Carillion	Carillion
A2	Carillion	Carillion	Carillion	Carillion
B	Carillion	Carillion	Trust	Trust
C	Trust	Carillion	Trust	Trust
D	Trust	Trust	Trust	Trust
F2	Carillion	Carillion	Carillion	Carillion
P	Trust/Carillion	Trust/Carillion	Trust	Trust

8.11.2 Supply

In terms of the supply of equipment, it was considered better value for the Trust to procure/supply Categories C and D equipment due to the commercial advantages that the NHS has with equipment suppliers and the types of equipment that the Trust has identified for transfer.

The Trust has also ensured that it will directly influence the Categories A2, B, F2 equipment via appropriate process controls and specifications issued to bidders.

Categories A1, A2, F2 equipment is included within Project Co provision due to the integral nature of these items to the building.

Due to the competitive nature of the PFI process the Trust has required a fixed price for A1 equipment. The Trust retains specification and selection rights in relation to categories A2 B, F2.

The Trust considers that significant value for money and levels of risk transfer can be obtained for items not being directly procured by the Trust.

8.11.3 Installation

In terms of installation of equipment, it is a Project Co responsibility to install Categories A, B, F2 equipment. The Trust made this decision in order to transfer design, construction and installation risk and responsibility for these categories to Project Co. Categories C items are mostly low risk and are not perceived to pose a high risk of damage to the building on installation. Category D equipment is mobile equipment.

8.11.4 Maintenance

The Trust will maintain all equipment with the exception of A1, A2 and F2 items. This means in effect that the Trust will assume responsibility for maintaining all items of medical equipment as well as some other types. This is seen as ensuring best value.

8.11.5 Lifecycle

With regard to lifecycle responsibilities, it was considered better value for the Trust to provide lifecycle replacement for all equipment with the exception of integrated A1, A2 and F2 equipment. This was primarily due to the advantage the NHS has with equipment suppliers.

With regard to Category A1 equipment, the Trust determined that Project Co should hold lifecycle responsibilities due to the integral nature of these items to the building. The Trust also requires Project Co to lifecycle A2 equipment at stipulated lifecycles as this type of equipment is clinical in nature albeit fixed to the building.

As part of its approach to the development of ITPCD and Competitive Dialogue, the Trust established an Equipment and Commissioning Workstream, to undertake a more detailed assessment of the Project's equipment requirements.

As part of Schedule 13 the Trust developed equipment lists by category as a benchmark position against which the Bidders could price their bids.

At the Interim Stage, bidders were invited to submit a range of interim deliverables which were subsequently evaluated. In summary they were as follows:

- Commentary on the Trust's strategic approach to equipping.
- First cut costing/investment schedules based on the Trust's first cut ERM.
- Commentary on the Trust's commissioning approach.
- Transfer costs for equipment (costed basket exercise).

Following the 3:2 selection process, the Trust issued a range of draft specifications covering equipment in A2, B and F2 categories which were agreed with users. The specifications would take precedence over any other descriptors.

In addition, significant changes to equipment requirements, generated by users were issued to bidders in the form of (un-costed) updated ERM releases.
The bidders were instructed that it was their responsibility to maintain their respective costed databases utilising the Trust's coding and description system.

Innovations from bidders agreed by the Trust are to be included in the UP.

Final deliverables can be summarised as follows:

- Method Statement describing the strategy for the ongoing development of the ADB database during the preferred bidder stage.
- Acceptance of ERM responsibilities in Schedule 13 of the PA.
- Confirmation that A1 equipment will be a fixed price.
- Category A2 and F Investment Plan.
- Method statement for the delivery of the A2 equipment service.
- Category B equipment costing schedule.
- Method Statement on procurement and replacement Strategy for Category A1 equipment. Method Statement for accommodating the (to be specified) patient entertainment system.
- Statement outlining the proposed strategy for Trust consultation on fixed soft FM equipment.

8.11.6 Transferred Equipment

The OBC assumed that 50% of the value of equipment requirements would be met by transferred equipment. The generic assumption is that the majority of mobile and portable equipment would transfer allowing for condition.

A small number of historic, legacy items have also been planned to transfer.

Further second cut work is being undertaken on the Trust's Capital Assets Register and Leased Asset Register in order to ensure that in the intervening years to 2013 capital equipment expenditure is focused to best effect and that purchases are compatible with the longer term direction. This approach, coupled with an equipment rationalization programme, is intended to drive out best vfm solutions in both the short and longer terms.

8.11.7 New Equipment

The Trust will develop an equipment procurement timetable linked to PFI construction.

The Trust confirms that the equipment costs at ABC stage are within the affordability of the Project for both capital procurement and capital charges revenue consequences and that the responsibilities for the provision of equipment have been accounted for in making this statement.

8.12 MATCHING THE PREFERRED SOLUTION TO DESIGN REQUIREMENTS

8.12.1 General

The design solutions that have been developed are agreed to be compliant with the Trust's brief. The Trust's PSC has been used as a benchmark for the Bidder's solutions and the Trust and its advisors are satisfied with the quality and level of detail of the solutions.

The designs have been developed to a high degree of detail with input and sign-off from clinical teams representing staff groups together with user input. This has resulted in the development of 80% of the rooms at 1:50 with room data sheets for all rooms. This process has also allowed for the development of an equipment database with reconciliation back to the 1:50 room lay-outs.

8.12.2 AEDET

The Trust has obtained design data to the extent required by the Design Development Protocol, and has applied AEDET (Achieving Excellence in Design Evaluation Toolkit).

8.12.3 Flexibility

The solutions have been able to demonstrate flexibility for expansion, contraction and alternative use, with particular points of note being:

- The application of standard room templates to cover the hospital
- The demonstration through the Long Range Development Plan of how the site can change and expand/contract in a logical manner

8.12.4 Green Design

The development has produced an energy efficient and green solution with the most notable points being:

- The scheme's design and construction energy consumption of 40 Gj/100m^3 is well below the National ceiling targets of 55Gj/100m^3.
- The scheme addresses the provisions for carbon trading relating to the Greenhouse Gas Emissions Trading Scheme Regulations 2005.
- The scheme has complied with the Trust target of 20% of renewables used in the scheme.
- The scheme has attained an excellent rating in both NEAT and BREEAM.

8.12.5 Design Completion

The footprint and floor layout plans of the design are frozen, reflecting the equally frozen scheme content and schedules of accommodation and a clear process is set out and agreed to finalise other design issues.

8.12.6 Costing and Commercial Points

Carillion has provided detailed costings and elemental cost breakdowns also expressed in Capital Investment Manual Cost Forms FB1-4 format. Costs and elemental breakdowns have been analysed by the Trust and its TA team, and discussed with Carillion during the dialogue stage. The costs included in Carillion's final bid were assessed and a full report produced by the Trust's QS.

Carillion has accepted the use of ITPD/ITN cost submissions as a basis if changes occur between Preferred Bidder and Financial Close. The original output specifications are met and Carillion has addressed all weaknesses identified from the bid clarifications, with the solutions agreed by all parties and included in the bid price.

Any departures or derogations from 'best practice' guidance are explained and have been accepted by the Trust as part of the commercial deal.

All technical surveys are completed where practicable including structural and contamination surveys. The value for money position on these surveys has been tested and agreed through the DH and the project's funder's advisors.

It is not anticipated that there will be major change following award of Preferred Bidder but a process has been established with the Trust's TA team/QS for monitoring and sign-off of variations. This process will include the use of benchmarks including DH estates information should it ever materialise.

8.12.6 Process

The scheme has received a DH Design Review Panel (DRP) 2 assessment and report, the recommendations from which have been addressed.

8.12.7 Statutory Requirements

The scheme has demonstrated capacity and a strategy to comply with statutory health & safety requirements (e.g. Fire-code) and environmental standards.

8.12.9 Consumerism

The scheme complies with the consumerism agenda and has some notable features including 75% single rooms.

8.12.10 Comparison with Public Sector Comparator (PSC)

A comparison was made between the Carillion scheme and the PSC. The Trust has confirmed that the weaknesses of the PSC have been addressed by the bidder scheme as identified in the table below.

	Carillion Ave Score	PSC Score	PSC Commentary and overall comparison	Carillion specific comparison with PSC
Character	4.5	4.0	• The PSC achieved a good sense of space and structure overall but a more classic and civic approach would be preferred. • The atrium ran along the width of the diagnostic and treatment blocks with a gallery leading from the atrium along the length of several of the ward blocks but did not bring the benefit of a generous, open and airy concourse through to all main parts of the hospital.	• The Carillion building offers a well formed sense civic quality and presence which exceeds the PSC. This has been achieved through the overall structure of the building with its impressive glass atrium. • The generous concourse offers advantages over the PSC design in bringing light into and interest along the length of the concourse • The choice of materials in the Carillion scheme support an 'of Bristol' character to the building.
Innovation	4.6	4.0	• The PSC offered an acceptable structure with good use of the technical core linked to the lower teach ward areas. • Good innovation was achieved on both bidder schemes with the arrangement of accommodation around a central street.	• Carillion have offered innovative solutions to energy than seen in other PFI hospitals including the use of wind towers to naturally cool the atrium. • The hospital has been designed to accommodate Automated Guided Vehicles (AGVs) for distribution around the building
Form	4.9	4.5	• The PSC achieved a logical and well structured form. The overall plan was based on a central greenspace as the principal public realm focus within the site. • The greenspace was defined by large scale trees and the use of existing historic buildings along its north-western edge. • Landscape was effectively drawn through the building. • The PSC made good use of the site topography.	• Overall, the site is well structured, adopting a similar approach to the PSC through the use of a central square enclosed on 2 sides by the new hospital and the historic buildings. • The Carillion building is well formed on the site using the land topography to separate general from emergency flows. This has used a similar approach to the PSC. • The closure of the ends of the ward blocks has had a positive effect on the external elevations onto Dorian Way, giving the street a greater sense of enclosure than the PSC which had a looser frontage to Dorian Way. • The Carillion design offers greater expansion potential than the PSC.

	Carillion Ave Score	PSC Score	PSC Commentary and overall comparison	Carillion specific comparison with PSC
Materials	5.1	4.0	• This aspect was not developed for PSC but was assumed to be adequate given the cost allowances. • Both schemes offer good quality materials and finishes, particularly inside the building.	• Carillion has paid a great deal of attention to the use of 'of Bristol' materials such as Bath and Pennant stone to dress the public elevations of the hospital to very good effect. • The Carillion lighting scheme is very attractive, and wider use of high quality finishes such as floor to ceiling glazing and wooden wall protection systems gives a higher score than the PSC.
Staff & patient environment	4.7	4.5	• The PSC had a good approach to bringing external space into the building including good access to light for all ward areas. The PSC proposed a high quality environment overall. • Further improvements could be made in bringing more light into the building overall, improving outpatient clusters, optimising visibility into single rooms.	• The Carillion proposal pipped the PSC at the post with the effective achievement of a light and airy building with very few areas not having direct or indirect access to daylight. Natural light is brought in throughout patient and staff areas including natural light into most operating theatres. • Many departments achieve a connection with the outside through the use of courtyards in both the ward and diagnostic and treatment areas.
Urban and social integration	4.6	4.5	• Permeable and welcoming site designed. Well connected facilities and human in scale. Master plan would benefit from greater legibility. • The master plans for all 3 designs are well developed, providing a good response to urban design. The PSC is considered more human in scale than the 2 bidder proposals but integrates less well with the Dorian Way and Kendon Way roads.	• The Carillion building has a more interesting and effective form when viewed from outside the site than the PSC proposal.
Performance	4.9	4.0	• Not developed for PSC but assumed to be adequate. Comparison with the bidder schemes is therefore made on the basis that both schemes would need to exceed an 'adequate' score of 4 to perform more favourably than the PSC	• Carillion has addressed the issue of sustainability as an integral part of the design of the hospital. • Carillion has achieved naturally ventilated wards through their orientation. • The Carillion energy model shows the 45GJ/100m3 energy target is more easily achievable.

	Carillion Ave Score	PSC Score	PSC Commentary and overall comparison	Carillion specific comparison with PSC
Engineering	4.6	4.0	• Not developed for PSC but assumed to be adequate. Comparison with the bidder schemes is therefore made on the basis that both schemes would need to exceed an 'adequate' score of 4 to perform more favourably than the PSC	• Carillion has an embedded energy centre offering a more efficient engineering system with less pipe-run distance.
Construction	4.4	4.0	• Separate ward template allows pre-fabrication. Regular shape aids speed of construction.	• Carillion's fast construction programme and integrated approach to phasing and demolitions marks it slightly higher than the PSC.
Use	4.4	4.0	• Good separation of flows. • Building is flexible and will allow for easy adaptation of use. • Some improvements would benefit scheme including visitor access to wards, consistent layout of corridors, more integrated access to FM facilities and improved cohesion between acute and community hospital.	• The Carillion scheme offers good separation of flows, flexibility and ease of adaptation as the PSC. It has achieved a higher score than the PSC due to its integrated FM centre, more consistent access arrangements, especially access to wards for staff and visitors
Access	4.6	3.5	• Travel distances are quite long to wards and between wards and imaging. The 'L' shaped wards could lead to orientation difficulties. • The 2 bidder schemes both offer good access, with the central square gathering traffic from the 3 main entrances. The access arrangements are considered clearer than the PSC due to the logical and simple road layouts, offering easy access and egress for buses and cars. • Both schemes encourage use of buses and have made provision for cycle lanes. • Internally both schemes gather departments together around a central street which is consider more logical than the PSC .	• The PSC provides a multi-storey car park to the north east of the site which is not considered as successful as the Carillion multi-storey placed at the hospital building entrance • Access to the Carillion wards is much easier than in the PSC.

	Carillion Ave Score	PSC Score	PSC Commentary and overall comparison	Carillion specific comparison with PSC
Space	4.4	4.5	• Logical and regular buildings offer good space with generous areas.	• The Carillion design is considered slightly less space efficient due to the irregularity of some of the rooms when compared with the PSC.

8.13 PLANNING APPROVALS

On 26 April 2006, Bristol City Council Development Control (North) Committee resolved to grant outline planning permission for the development of the Southmead site. This is subject to a Section 106 Agreement with Bristol City Council and a Section 278 Agreement with South Gloucestershire Council.

The ITPD documentation states the requirement for Project Co to be responsible for obtaining and implementing all requisite development consents (including planning).

The Section 106 Agreement and Section 278 Agreement that have been agreed with Bristol City Council and South Gloucestershire Council require the following costs to be funded by Project Co (at April 2006 prices):

- The provision of £425,000 to fund the cost of improvements to the Pen Park Road/Southmead Road Junction.
- The provision of £500,000 to fund the cost of improvements to the North Fringe Development Major Scheme.
- The provision of £500,000 per annum revenue support (for three years) to pump/prime public transport services prior to assumed commercial viability.
- The completion of a design framework prior to submission of a full planning application.
- The costs of a Traffic Regulation Order to restrict parking on Dorian Way.
- The costs of a Traffic Regulation Order to develop revised access arrangements on Monks Park Avenue.
- The cost of changes to the A38/Bartholomew Square junction to enable emergency ambulance access to Dorian Road.

Bidders were advised of the need to ensure that their design solution accords with Bristol City Council's planning guidance (both generally and specifically to this Project). Carillion's proposals are supported by a letter of acknowledgement from the Council that confirms acceptance in principal of the main direction of the schemes and identifies residual issues to be addressed by the bidders. There were no material issues raised by the planners within this letter.

Carillion's programme allows sufficient time for full planning permission to be achieved including a judicial review period of three months prior to Financial Close.

CHAPTER 9: COMMERCIAL

9.1 INTRODUCTION

This chapter includes the key points of the PFI deal in relation to legal matters, including the details of the payment mechanism.

Following approval of the Outline Business Case, the scheme procurement process commenced following EU regulations in the appointment of the professional advisors and in the PFI procurement process. A copy of the advertisement is attached at Appendix 9.i. The Trust confirms that the Project remains within the scope of the OJEU notice.

The Project Agreement is based on the DH standard form project agreement and schedules (Version 3, as amended July 2004, February 2006, November 2006) ("DHSF") and has been tailored to reflect the specific elements of the Project. This tailoring has been agreed with the Department of Health Private Finance Unit (PFU).

The Trust issued a project-specific Project Agreement at the start of the Competitive Dialogue process. This was updated following the interim bid submission and a project-specific review of the documentation by the shadow due diligence advisors. The final Project Agreement was issued at Invitation to Submit Final Bids.

Throughout the Competitive Dialogue process the Trust has discussed all commercial and price-sensitive issues. This resulted in certain bid-specific drafting, which has been agreed with both the Trust and the PFU, prior to submission of Final Bids.

At the final bid stage Carillion confirmed that all commercial issues have been raised by all members of its consortium.

At the Minded to Appoint Preferred Bidder stage the Trust has therefore achieved a bid-specific Project Agreement, with resolution on all commercial and price-sensitive issues. The Trust has consulted with the due diligence advisors to ensure that there are no significant funder risks outstanding. This position has been captured in a Preferred Bidder Letter agreed with the PFU, to be issued following appointment.

A programme has been agreed to allow resolution of all non-price sensitive issues during the Preferred Bidder stage.

9.2 KEY COMMERCIAL ISSUES

9.2.1 Site Strategy

The site is 24.8 hectares and owned by the Trust. Adjoining the Trust's site is land previously owned by the National Blood Service (1.1 hectares). This was transferred to the Trust on 27 February 2009 with the exception of the apheresis unit which will remain under NBS ownership. This brings the Trust's site up to 25.9 hectares. Avon and Wiltshire Mental Health Partnership owns 1.4 hectares of land on the overall Southmead site. The acquisition of land from the National Blood Service was incorporated into the overall master plan for the site.

9.2.2 New Facilities

The new Facilities (including the new Hospital) are to be designed, constructed and maintained by Project Co. A full payment mechanism will apply to such buildings.
The Trust will decant and demolish a number of buildings within the Site by financial close. The Trust demolition is undertaken to ground level with foundation and sub-structure remaining. The bidder will still be required to decant and demolish other buildings within the Site prior to the start of construction.

9.2.3 Historic Buildings

The Local Planning Authority has clearly stated that a number of the older smaller hospital buildings across the site are to be retained as part of the overall Project. The term "Historic Buildings" is used to define such buildings across the site.

Project Co has incorporated these Historic Building within their site master plan and will be performing some minor works to the exterior of the buildings only. The Trust will refurbish and be responsible for the ongoing maintenance and lifecycle of these buildings as part of the Trust Retained Estate. The payment mechanism will not apply.

9.2.4 Trust Retained Estate

There will be a range of retained facilities across the existing Southmead Hospital site, including women's, pathology, learning and research and corporate services. These facilities will comprise the Trust Retained Estate and fall outside of the Project.

The Trust foresees that, whilst currently in use, some of these buildings will be upgraded or demolished in the medium-term and will have a shorter life expectancy than the length of the Project Term. Due to this and the current age of some of these buildings, the Trust considered it unwise to incorporate these buildings within the PFI development. The Trust does not require Project Co to perform any construction or future maintenance services in relation to these facilities.

9.3 ADVANCE WORKS

Carillion submitted proposals to undertake works in advance of Financial Close in order to improve the programme.

The proposed advance works relate to infrastructure work and provision of temporary buildings required for Trust decant. The total value of this work is £7m excluding VAT.

As mentioned above, the advantages of doing this work in advance of the PFI contract is to improve the overall scheme programme. In addition, since the Trust will fund these works via a bullet payment at Financial Close, the cost of these works is not rolled up into the UP and hence ultimately affords better value for money.

The DoH standard Advance Works Agreement has been adopted, which ensures that the terms remain the same as for the main Project Agreement. As a consequence, the risk profile of the agreement mirrors the standard form position with no additional bespoke clauses.

Once Financial Close is achieved, these Works will be rolled up into the Project Agreement. These proposals have been reviewed by the PFU.

In the unlikely event that Financial Close is not achieved for the main PFI project, the Trust is confident that these works would still be utilised to help achieve a hospital redevelopment by alternative means.

9.4 PRIMARY INFRASTRUCTURE

Project Co will provide a new utility infrastructure for the Facilities. The Trust Retained Estate will be isolated and maintained on the existing utility infrastructure, saving where it is necessary to supply the Trust Retained Estate via independently metered and isolatable supplies from any new infrastructure bought to the site.

Project Co is responsible for the rationalisation and consequential works to sub-divide the Trust Retained Estate from the Site. The utilities include all necessary supplies to provide the full redevelopment needs with some future capacity for expansion.

In addition to the statutory utilities, Project Co will provide, design, supply and install all data cabling and points within the Facilities and will provide a data link to a designated hub within the Trust Retained Estate.

The pneumatic tube system, which is required as part of Project Co's solution, must also be linked to a designated connection point within the Trust Retained Estate to form a continuous system across the site. Project Co will maintain both the data connection and the pneumatic tube connection.

The Trust anticipates that the Facilities may change over the course of the Project Term. There is therefore additional capacity for statutory utilities to ensure that the primary infrastructure will cope with any future expansion.

9.4.1 Decommissioning Existing Buildings

Where the Project Co's proposals require the demolition or disuse of an Existing Building or Historic Building, Project Co must manage the process for decommissioning and demolition, together with all programming and statutory approvals.

If a building requires decontamination from chemical or radio-active products, as a result of operational use, the Trust will decommission and make safe the buildings and issue a clearance certificate accordingly.

Project Co must dismantle and demolish these buildings as required by their design solution (and make allowance for contaminants).

9.5 GROUND CONDITIONS AND CONTAMINATION

Bidders will take ground structure risk on the basis of warranted surveys provided by the Trust.

The Trust will take ground contamination risk excluding asbestos under Existing Buildings.
The Trust will take asbestos risk under and within Existing Buildings since it is not practical to carry out full level three surveys within these buildings before commencement of the Project.

The Trust will take asbestos risk within service ducts where it has not been possible to survey and assess the level of asbestos within the ducts. Where the Trust has undertaken surveys, in accordance with Standard Form, the Trust expects bidders to take this risk.

Where additional asbestos is found, Project Co and the Trust have agreed a formula to calculate the amounts payable by the Trust for the removal of the asbestos.

9.6 PHASING

The existing Southmead Hospital must remain fully operational throughout the Works. The majority of the development will be achieved as a single phase ("Phase 1") with a subsequent smaller phase involving completion of demolition works, landscaping and car parking areas ("Phase 2").

To reflect the phased development, there will be a step up of the payment mechanism in line with the expected capital costs of the two phases of the project. The concession period of 30 years will apply from Phase 2 Completion Date.

At the end of Phase 1 Project Co will provide a full Estate Service to the Facilities retained as part of the solution. The Grounds and Gardens Maintenance Service is expected to 'ramp up' to take account of the anticipated phased delivery of grounds, gardens and car parks.

9.7 PLANNING

Bristol City Council Development Control (North) Committee resolved to grant outline planning permission for the development of the Site on 26th April 2006, subject to a Section 106 Agreement. Project Co will be responsible for obtaining and implementing all requisite development consents (including planning). The Trust will take responsibility for Trust operational issues (e.g. staff travel surveys) provided any reasonable costs are met by Project Co.

Project Co shall observe and perform the developer's obligations detailed in the Section 106 Agreement and Section 278 Agreement and as set out in the Project Agreement. The costs required to be funded by Project Co (at April 2006 prices) include the following costs, which will be index-linked:

- The provision of £425,000 to fund the cost of improvements to the Pen Park Road/Southmead Road Junction. The funding shall be passed to Bristol City Council two years prior to first occupation.

- The provision of £500,000 to fund the cost of improvements to the North Fringe Development Major Scheme, as set out in the Section 278 Agreement.

- The provision of £500,000 per annum revenue support (for three years) to pump/prime public transport services prior to assumed commercial viability. The first instalment is to be made by Project Co one year prior to first occupation, the second on first occupation and the third on the first anniversary of first occupation.

- The completion of a design framework prior to submission of a full planning application

- The costs of a Traffic Regulation Order to restrict parking on Dorian Way.

- The costs of a Traffic Regulation Order to develop revised access arrangements on Monks Park Avenue.

- The cost of changes to the A38/Bartholomew Square junction to enable emergency ambulance access to Dorian Road.

- The Trust has agreed to reimburse Project Co for the costs detailed above (totalling £2.425m), subject to these being paid for by Carillion. Should Carillion propose an alternative planning application, the Trust's reimbursement will be capped at this level for similar costs.

9.8 HARD FM

The Trust requires Project Co to provide a hard FM service to the Facilities. The required service standards are set out in the Service Level Specifications contained in the Project Agreement. The full payment mechanism will apply.

The scope of the Hard FM service to be provided is as follows:

- Estates Maintenance Service (including window cleaning).
- Pest Control.
- Grounds and Gardens Maintenance (including roads, car parks within the Site).
- Helpdesk for Hard FM.
- Energy and Statutory Utilities Management.

The Trust will provide soft FM services throughout the site.

9.9 TUPE

The Trust does not anticipate any transferring employees.

9.10 INTERIM SERVICES

No interim services are included in the Project.

9.11 ENERGY

The building has been designed to achieve a thermal and energy efficiency of 40 GJ/100m^3 per annum for the new Facilities.

The Project Agreement incorporates the latest energy drafting, and has been amended, following agreement with the PFU, to reflect the use of renewable sources of energy.

The scheme also incorporates a carbon target of no more than 3.434Te/100m3 carbon production, which is in accordance with the Greenhouse Gas Emissions Trading Scheme Regulations 2005.

9.12 ICT STRATEGY

Information Management & Technology

The new models of care in the new Southmead and Frenchay hospitals, and community facilities, will be supported and enabled by a modern IM&T infrastructure, up to date applications systems and robust information management.

The principles underpinning the strategic and operational support and enabling that IM&T provides for and within the new hospital and related facilities, to deliver the new models of care are:

- **Paperless**: in reality this will be "paper lite" rather than "paper less", but this is the goal.
- **Freedom**: wireless technology, freeing staff to deliver service when and as required.
- **Quality**: excellent service, robust, reliable systems, safe and confidential.
- **Affordable**: delivers the reality within the affordability for the organisation.
- **Patients**: in all we do, we should ask "is this what the patient deserves and needs"?

The IM&T infrastructure will be underpinned by:

- A full Trust network, with wireless capability, in clinical and non-clinical areas, allowing access from any desirable location to IT systems and information, and for all staff.
- High levels of PC penetration, allowing access to information and systems, and supporting the organisation directly. People to PC ratios, generally, will be in the region of 2:1 in clinical areas, and 1:1 in non-clinical areas.
- Modern, personalised, mostly wireless telecommunications systems, supporting patient access to information and aiding communication within the organisation, will be available.
- Standardised, streamlined processes (from PC requesting to systems access, from extension changing to video conferencing set up).
- Infrastructure to carry a range of digital services, covering security, pass card information and images and alarms.
- The Trust's infrastructure will be supported by first class customer service, from a central Help Desk facility, working alongside Facilities, to provide a combined support organisation.

Applications Systems will provide:

- A single, modern IT system supporting administration and clinical requirements, including prescribing, decision support and clinical documentation. These will integrate with partner organisations systems across the Health economy to assist with care across the patient pathway.
- This single system will be fully integrated with those of other NHS organisations in the area (and in some cases, non-NHS organisations), including PCTs allowing easy sharing of information and moving of patient record information.
- No more than 50,000 paper records stored on site, with a 90% computerised/electronic patient record, with full flexibility to move beyond the "hospital boundary", utilising the same record in Community and primary care settings. This is vital to deliver many of the new models of care.
- Electronically delivered x-rays and other images, direct to PC/workstation screens. Actual "film" movement will be minimal and historical.

Robust Information systems will:

- Provide accurate information across a range of systems, to provide clinical, operational, managerial, financial and patient information.

- Accurate and timely clinical coding, coupled with modern financial systems will assist with providing financial information to help manage the operational services, within the financial envelope. Clinical Coding will take place as close to the patient experience and clinician intervention as is possible.

- Knowledge management services will be available from Education facilities, libraries, information points, and indeed, across the Trust, enabling clinical and non-clinical educational information to be available to all staff.

IM&T will support the new models of care, and deliver real benefits to the Trust and Health economy to provide the necessary information and technology infrastructure, required to deliver the development and new services.

9.13 EQUIPMENT

The Trust is not seeking to procure a managed equipment service. Where practical, the Trust will transfer equipment from the existing Southmead and Frenchay Hospitals to the new Hospital. Where this is not practical, Project Co will procure, purchase, supply, install and commission new equipment in the Facilities in accordance with Schedule 13 (Equipment) of the Project Agreement.

The Trust's position is summarised in the following responsibility allocation matrix:

			Responsibility		
	Composition	**Supply**	**Install/ Commission**	**Maintain**	**Replace**
A1	Fixed equipment to be included within the building construction cost (integral to the building and engineering installations). Examples include a bleep system and bed head units.	ProjCo	ProjCo	ProjCo	ProjCo
A2	Fixed equipment to be included within the building construction cost (integral to the building and engineering installations) but for which there are clinical considerations. The Trust will provide an "input" based equipment specification during the construction phase and an "output" based specification ("Outline Specification") during the operational phase (i.e. for lifecycle replacements).	ProjCo	ProjCo	ProjCo	ProjCo
B	Equipment included as part of Project Co commissioning of the new building. This includes specialised equipment which may have service requirements and which may need to be installed by third parties, during the commissioning phases. These items of equipment are not transferred from the existing hospital. This category will include fixed equipment such as imaging machines.	ProjCo	ProjCo	Trust	Trust

			Responsibility		
	Composition	**Supply**	**Install/ Commission**	**Maintain**	**Replace**
C	Equipment that has fixings to the new building. Equipment which will be delivered to Project Co for fixing in the new facilities. This category may include items currently fixed to the Trust Retained Estate and/or Historic Buildings which will be transferred to the Facilities.	Trust	ProjCo	Trust	Trust
D	Non-fixed equipment supplied by the Trust. This category will include transferred equipment from the Trust Retained Estate and/or Historic Buildings.	Trust	Trust	Trust	Trust
F	Fixed and major FM services equipment to be included within the building construction cost (integral to the building and engineering installations) and which will be selected by the Trust. This category mainly includes major catering equipment	ProjCo	ProjCo	ProjCo	ProjCo
P	Patient entertainment and information system where Project Co will take design risk and responsibility for the interface with the building but the Trust's third party will supply the product.	Trust/ ProjCo	Trust/ ProjCo	Trust	Trust

Project Co is responsible for project managing the transfer of all equipment into the new Hospital to ensure that Trust / 3rd party and Project Co activities are fully co-ordinated.

Project Co is also responsible for ensuring environmental conditions, space and services installation supplies are appropriate for the equipment. For those items of equipment which Project Co is responsible for supplying, installing and/or commissioning, such activities will form part of the Completion Tests required to be carried out by the Independent Tester in order for the Independent Tester to be satisfied that the Works are complete and that the relevant Phase Actual Completion Date has occurred.

Project Co has agreed a budget for the purchase of New Equipment. This budget includes risk allowances and the Trust has assessed as providing VFM.

The initial procurement of the New Equipment will be overseen by the Equipment Liaison Committee.

Due to the inherent risks of equipment obsolescence and changes in clinical practice, the Trust may change its mind regarding items of equipment.

Where actual New Equipment cost (in aggregate) is more or less than the budgeted amount, the risk relating to savings / additional expenditure will be allocated as follows:

Equipment	Cost	Outcome
No change to original agreed item	Actual cost < budget	Trust is credited with the saving attained
No change to original agreed item	Actual cost > budget	Project Co must pay additional cost
Trust changes its mind on original item of equipment	Actual cost < budget	Trust is credited with the saving attained
Trust changes its mind on original item of equipment	Actual cost > budget	Trust must address additional cost

Project Co is required to use all reasonable endeavours to achieve best value for money in the sourcing, supplying, installing and commissioning of equipment. Best value for money is defined in terms of equipment specification, price, existence or absence of management fees, warranties, staff training, cost of disposable items directly related to the equipment or other costs ultimately payable by the Trust.

If Project Co is entitled to warranties, guarantees or commitments in relation to items of equipment used by the Trust, these will be assigned to the Trust where possible and appropriate. If this is not possible, when required, Project Co will make claims on behalf of the Trust for faulty or damaged equipment or unmet commitments.

Project Co is responsible for the lifecycle and maintenance of all Category A1, A2 and F Equipment. Category A2 and F Equipment will initially be procured with reference to an input specification. When replacing Category A2 and F Equipment, the Trust will continue to have an input into the exact item of equipment to be purchased, via the Equipment Liaison Committee.

9.14 SMALL WORKS AND AD HOC SMALL WORKS

The Trust recognizes that it will require Project Co to perform ad hoc works each year, such as putting up shelves, etc. This work is defined as 'Ad Hoc Small Works'. Ad Hoc Small Works will cover individual jobs up to a value of £**[REDACTED]** each (index linked). The value is determined as cost of materials (including any discounts received by Project Co) and direct labour costs only.

Project Co's hard FM service shall incorporate an allowance of £**[REDACTED]** per annum (index linked) for tasks classed as Ad Hoc Small Works. The Trust may therefore request Ad Hoc Small Works to an aggregate of this value without any charge. Once this budget limit has been reached, all further work will be classed as Small Works. Any unused allocation will be carried forward to subsequent years.

Small Works as defined in Schedule 22 of the Project Agreement excludes Ad Hoc Small Works. A schedule of rates will apply for all such works. These works will be charged at direct labour, direct materials at cost (including any discounts received by Project Co), plus a **[REDACTED]** % profit margin.

More substantial works will be dealt with through the variation procedure included in the standard form Project Agreement.

9.15 RETAIL OPPORTUNITIES

Project Co is required to run all concession units within the Facilities with the exception of a small concession for the League of Friends. Retail lease terms for both a head lease and under lease have been agreed with Project Co. The head lease shall run for 30 years, with optional break terms at 10 and 20 years.

A basic rent will be received in return for the retail facilities, which will be netted off the monthly Service Payment. The Trust requires Project Co to incorporate 30 years of rental income within their financial model. Should the Trust choose to break the contract in accordance with the optional break term, the Trust will reimburse Project Co for the annual amounts included within the financial model for the remainder of the term of the lease.

In respect of the League of Friends' concession, the Trust will receive income directly, rather than this being netted off of the Service Payment. Lifecycle and hard FM services will be provided by Project Co. The costs of these services will be recovered through the Service Payment.

9.16 CAR PARKING

The Trust has been granted outline planning consent for 2700 spaces which must be provided on the site. Project Co will provide 1500 of these spaces within the boundary of the Site. The Trust will address the balance of spaces required, enhancing existing spaces where necessary.

Project Co will maintain the car parks within the boundary of the Site. The Trust will install and maintain car parking barriers and pay machines. The Trust will manage the operation of the facility and retain all income and associated costs.

During construction the Trust's current car parking complement must be maintained at all times (off-site solutions will be acceptable). Project Co is responsible for replacing any car parking spaces which it removes / obstructs to achieve this end.

9.17 PAYMENT MECHANISM

A fully worked up payment mechanism has been agreed in accordance with Standard Form, together with service failure point thresholds for step in and termination. This has been agreed by the Trust, Trust advisors and the PFU and reflects the principles used to prepare the PSC payment mechanism. This mechanism is designed around the base schedule of accommodation but will be adjusted as the design is signed off prior to financial close.

The Standard Form service specifications have been agreed without amendment and method statements have been provided to confirm the level of service and procedures to be applied. All tolerances and bedding in periods have been agreed between Trust, Carillion and the funder's advisors. Since the scheme does not involve the transfer of any staff to the PFI scheme, there are no training or handover issues to be considered.

9.18 FINANCIAL AFFORDABILITY

Bids are to remain valid and fixed for a period of 6 months from the planned date of financial close (except for the application of RPI). Thereafter the only costs that will change are capex, lifecycle and FM costs. Capex and lifecycle will be adjusted on the basis of the MIPS Building Cost Index. FM will be adjusted on the basis of RPI. Such adjustment will only begin from the date occurring 6 months after the end of the planned month of financial close. Carillion's UP includes

composite trader provisions and the benefits have been passed to the Trust in competition.

9.19 INSURANCE

The Trust requires Project Co to effect and maintain in force the insurances identified in Schedule 21 (Required Insurances) of the Project Agreement throughout the duration of the Agreement or for particular activities undertaken during its course.

The insurance requirements can broadly be classified as follows:

- property damage
- contractor's all risks
- third party public and products liability
- delay in start up and business interruption

The insurances identified above and in Schedule 21 do not limit Project Co from considering other additional forms of insurance. However, only premiums for the policies listed in Schedule 21 are priced in the financial model. These premiums have been reviewed by the Trust's insurance advisor and all comply with PFU guidance.

9.20 OUTSTANDING PROJECT SPECIFIC ISSUES

There are no major commercial issues requiring resolution, and the few minor project specific issues will be resolved during dialogue at the next stage.

9.21 COMPLIANCE WITH PLANNING PERMISSION CONDITIONS

The Detailed Planning Application will be submitted immediately following ABC approval. As such neither party can know what planning conditions will attach. Responsibility for complying with conditions will be agreed at the relevant time.

9.22 METHOD OF FUNDING

The Preferred Bidder will be carrying out a funding competition following ABC approval. As such, the Trust cannot be clear of the method of funding (bank or bond) or funding rates at this time.

9.23 INFORMATION MEMORANDUM

This will be drafted for the Department of Health approval in advance of ABC approval.

9.24 FUNDING COMPETITION

The scheme is subject to a funding competition in line with HM Treasury guidance.

Funders' due diligence advisors were jointly appointed during the competitive dialogue process. The advisors have completed stage 1 and 2 reports and these are being used to inform the completion of the Bidder's letter.

A funding protocol has been agreed with Carillion and the DH and this includes any issues and risks arising from the diligence review to date.

SECTION 10: FINANCIAL AFFORDABILITY

10.1 INTRODUCTION

This section will demonstrate the financial affordability of the preferred option put forward in this ABC by:

- Setting out the Trust's current and historical financial position, with a projected I&E surplus for the 2008/9 financial year of £9m (excluding impairment).

- Outlining the revenue expenditure and income associated with the provision of the proposed new facilities, including the consequent efficiency savings.

- Outlining the income and associated expenditure implications of projected changes tariffs, cost pressures and in activity in relation to growth and service transfers, leading up to the first year of operating the planned new facilities in 2013/14, and for the subsequent three years to 2016/17.

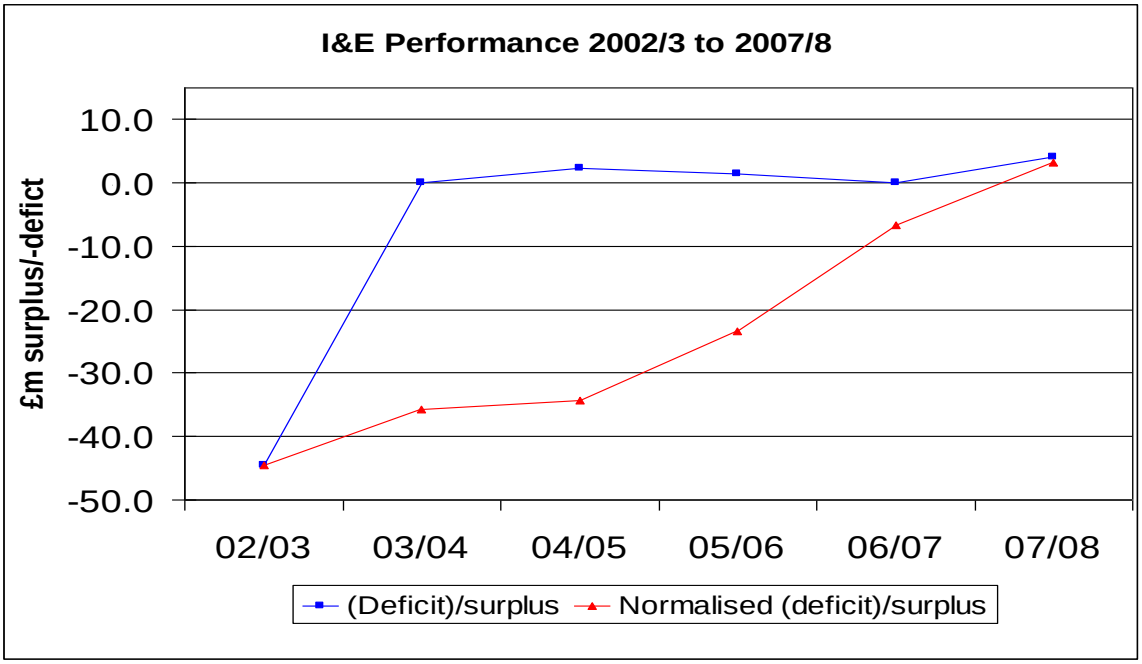
- Summarising the overall income and expenditure changes from 2008/9 to 2016/17, incorporating the combined impact of tariff changes and inflation/cost pressures, activity changes and the provision of the new facilities, and showing that they do maintain a sustainable I&E surplus. Thereby demonstrate that the preferred option can be afforded within the context of all the other changes affecting the Trust's income and expenditure over the period, and not just in isolation.

- Summarising the capital expenditure of the preferred option which is not planned to be included in a PFI deal, and showing how this expenditure, together with all other planned capital expenditure of the Trust between 2008/9 and 2013/14, can be financed in the context of the new capital funding scheme for the NHS. Thus demonstrate that the preferred option is also affordable in capital terms.

10.2 HISTORICAL AND CURRENT FINANCIAL POSITION

NBT incurred a deficit of £44.6million in 2002/03. The Trust drew up a Financial Recovery Plan (FRP) over summer 2003 and this was the foundation on which the sustained recovery between 2003/4 and 2006/7 was based. In 2006/7 the Trust achieved break even without deficit support with a £0.085m surplus, and in 2007/8 achieved a surplus of £4.008m. The normalised and the non-normalised financial position in each year over this period are shown in Table 10.2.i below.

Table 10.2.i I&E performance 2002/3 to 2007/8



The key to the financial recovery and then the growing surpluses has been the achievement of efficiency savings over and above the level needed to meet real terms tariff reductions. The efficiency savings achieved in each of the last three financial years are summarised in Table 10.2.ii below.

Table 10.2.ii Summary savings achieved 2005/6 to 2007/8

	Actual 2005/6	Actual 2006/7	Actual 2007/8	Actual 2008/9
Target:-	20.2	27.7	21.5	20.5
	12.9	22.9	17.2	20.5
	7.3	4.8	4.3	
Total Target	**20.2**	**27.7**	**21.5**	**20.5**
Recurrent	11.2	22.9	17.2	19.2
Non-Recurrent	7.3	4.8	4.3	0.0
Total	**18.5**	**27.7**	**21.5**	**19.2**
CRES achievement v target	92%	100%	100%	94%
Total Expenditure	**368.7**	**380.0**	**416.9**	**417.2**
Efficiency savings as % of expenditure				
Recurrent	3.0%	6.0%	4.1%	4.6%
Non-Recurrent	2.0%	1.3%	1.0%	0.0%
Total	**5.0%**	**7.3%**	**5.2%**	**4.6%**

The Trust's reference costs over recent years are shown in Table 10.2.iii below.

Table 10.2.iii Reference costs 2002/3 to 2006/7

Reference Cost Index 2002/03 - 2006/07

	ORGANISATION-WIDE INDEX INCLUDING EXCESS BED DAYS	ORGANISATION-WIDE INDEX EXCLUDING EXCESS BED DAYS	ELECT. / DC CARE	NON-ELECTIVE INPATIENT	CRITICAL CARE trimmed	OUT PATIENT SERVICES	OTHER ACUTE SERVICES
2002/03	126.72	126.17	122.77	125.06	113.23	128.97	124.71
2003/04	109.75	109.11	105.58	113.57	110.61	123.57	88.62
2004/05	105.80	105.19	102.21	107.00	119.74	106.51	93.60
2005/06	103.17	102.94	102.05	100.61	112.05	100.57	101.28
2006/07	101.72	100.77	103.11	99.74	90.84	93.23	103.32

This shows a progressive improvement. Appendix 10.i shows the reference cost position in 2006/7 at a specialty level. This shows a number of specialties with reference costs over 100. Further work has indicated that in some of these cases this is due to technical differences between reference costs and tariff income, and the specialty is not in deficit in terms of tariff income against costs. The specialties which are in deficit on both a reference cost basis and on an income basis are shown in Table 10.2.iv below.

Table 10.2.iv Specialties showing costs over income and reference costs over 100

	2006/07 Cost versus Income Analysis			
Specialty	**06/07 Surplus / (Deficit) £**	**Total Full Cost 2006/07 £**	**% Surplus / (Deficit) of Total Full Cost %**	**Ref cost index variance (trimmed) %**
Oral Surgery	(691,985)	2,869,855	(24.1)	51%
T&O	(1,877,707)	44,687,366	(4.2)	17%
A&E	(1,005,095)	8,007,599	(12.6)	16%

In these specialties work is underway to understand the reasons for the high costs. The principal focus has been on Trauma and Orthopaedics, which is the most significant area of loss. Projects focusing on improving theatre utilisation and throughput, trauma length of stay and outpatient productivity are being taken forward.

A £9m surplus excluding impairments, is planned and projected for the current 2008/9 financial year. The Trust is on track to achieve this level of surplus.

As a consequence of its pre 2003 historical deficits, the Trust has had to take out a £52m loan. The plan agreed with the South West SHA for the repayment of this loan over the period 2007/8 to 2012/13 is set out in Table 10.2.v below.

Table 10.2.v Repayment plan for £52m historical deficit loan

	31-Mar-07 £m	2007/8 £m	2008/9 £m	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	Total £m
Minimum I&E surplus		4.0	9.0	6.2	7.9	9.0	8.8	44.8
Capital receipts and change in working capital			4.0	2.0	0.5	0.7		7.2
Outstanding Loan	52.0	48.0	35.0	26.9	18.5	8.8	0.0	
Cumulative I&E deficit	44.8	40.8	31.8	25.7	17.8	8.8	0.0	

The loan is planned to be fully repaid in 2012/13 prior to the opening of the new hospital, and revenue surpluses achieved to bring the Trust's cumulative I&E deficit back into surplus. With the £4m surplus achieved in 2007/8, the projected £9.0m surplus in 2008/9, and impending capital receipts, the Trust is on track with repayments to date.

10.3 EXPENDITURE AND INCOME ASSOCIATED WITH PROVISION OF THE NEW HOSPITAL

10.3.1 Capital Cost

The OBC assumed completion of the scheme by 2013/14 at a capital cost of £374m (MIPS 445). This included a combination of public funding for enabling costs and some equipment, and PFI funding for the bulk of the scheme. This equates to a capital spend of £491m at out-turn prices.

The capital cost of the scheme is now marginally lower at £481m. The PFI element is £435m of the total. This is based on Carillion's bid of £429.7m at BAFO stage, together with an estimated £5.3m for improvements to the Carillion scheme at BAFO. These improvements comprise an increase to the size of the single bedrooms and additional medi-rooms to support the theatre complex. The unitary payment consequence of these changes is reflected in the planned unitary payment, as described in section 10.3.2 below.

Table 10.3.1 Capital cost

	OBC at 2005 prices	PSC at outturn prices	ABC at outturn prices
	£m	£m	£m
PFI capital cost including equipment	336	446	435
Associated PFI enabling works	26	31	39
S106 Costs			3
Equipment publically funded	12	14	4
Total	374	491	481

Note: The £4m for equipment excludes £7m of minor equipment items charged to revenue and included in Table 10.3.5i.

Table 10.3.1.ii shows the Trust's summary capital expenditure and funding plan over 2007/8 to 2013/14.

Table 10.3.1.i Capital Expenditure

	2007/08	2008/09 £m	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	Total £m
Expenditure								
Pre-PFI enabling	7.9	15.3	7.8	0.0	0.0	0.0	0.0	31.0
Advanced enabling	0.0	0.0	8.0	0.0	0.0	0.0	0.0	8.0
Section 106 costs	0.0	0.0	0.0	0.0	0.9	0.9	0.9	2.6
Equipment for the scheme	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0
Sub total PFI related	7.9	15.3	15.8	0.0	0.9	0.9	4.9	45.5
Blackberry Hill capital receipt			-6.5					
Other	25.0	32.6	24.2	29.4	28.9	26.6	11.2	178.0
Total expenditure	32.9	47.9	33.5	29.4	29.8	27.5	16.1	217.0
Funding								
PDC- enabling	6.8	16.0	8.1	0.0	0.0	0.0	0.0	31.0
PDC - other	11.0	16.1	7.9	0.0	0.0	0.0	0.0	35.1
Normal depreciation	15.1	15.8	16.2	17.6	18.7	19.2	20.1	122.5
Accelerated depreciation	0.0	0.0	5.4	11.8	9.1	9.4	5.1	40.8
Use of Blackberry Hill receipt for debt repayment etc			-6.5					
Other sources	0.0	0.0	2.3	0.0	2.0	0.0	0.0	4.3
Total Funding	32.9	47.9	33.5	29.4	29.8	28.6	25.2	227.2
Net surplus	0.0	0.0	0.0	0.0	0.0	1.1	9.1	10.2
Provision for SHA smoothing	0.0	0.0	0.0	0.0	0.0	0.0	-4.9	-4.9
Surplus	0	0	0	0	0	1.1	4.2	5.3

Planned capital expenditure includes a total of £45.5m capital expenditure directly related to this Appointment Business Case, in line with table 10.3.1.i. The £179m other capital expenditure includes a number of schemes supporting the new hospital and also capital expenditure completely un-related to the new hospital. Appendix 10.ix gives more detail and goes through to 2016/17.

Funding sources for capital expenditure include £31m Public Dividend Capital (PDC) for the PFI enabling works in this ABC, £35m PDC for other schemes and £122.5m normal depreciation. There is also funding from accelerated depreciation (£40.8m) and provision has been made for the cash consequences of SHA funding to smooth the impact of the scheme going on balance sheet. Both of these sources are explained in more detail later in this chapter.

Funding sources exceed planned expenditure £5.3m over the period to 2013/14. The surplus increases to £11.5m by 2016/17. Therefore, the capital expenditure directly related to the ABC, together with other schemes supporting the new hospital and all other planned capital expenditure, is affordable within the available resources, with a modest surplus for contingency purposes.

10.3.2 Unitary Payment

The Unitary Payment (UP) resulting from the PFI financing element of the capital cost is shown in the following table:

Table 10.3.2.i Unitary payment adjusted for Risks provision

[REDACTED]

The risk-adjusted unitary payment shown in Table 10.3.2.i of £34.5m at 2008/9 price is based on the following assumptions:

- Commercial bank funding is available for 50% of the senior debt at the time of the funding competition in autumn 2009, with an assumed LIBOR for a 25 year swap of 3.8%, a margin of 2.5% and a buffer of 0.5%. Funding from the European Investment Bank (EIB) has been planned for the balance of the senior debt. The EIB has indicated its intention to invest in the scheme subject to credit committee approval on selection of the preferred bidder. The full funding terms are set out in Section 12.4 and in Appendix 10.ii.

- The Trust finances £8m of advance enabling works (in addition to the originally planned £31m) and also £2.6m of Section 106 planning costs, out of its capital programme.

- Adjustments have been made to the Carillion proposed unitary payment to allow for further improvement to the theatres accommodation and bedroom space within the scheme, and take up a Carillion offer to contractually underwrite energy consumption at 40 Gj/m3 (instead of 45 GJ/m3) for a £**[REDACTED]** increase in unitary payment. The total adjustment for these three elements is £**[REDACTED]**. There is a £**[REDACTED]** downward adjustment as the Trust plans to fund second stage demolition costs (c £**[REDACTED]**) directly from transitional funds and this was included in the bidder unitary payment proposals at BAFO.

- A reduction of £180k has been made to reflect plans for the Trust to purchase a small number of the radiology analysers currently included in the PFI contract, where replacement of the existing analysers is required before the new hospital opening.

- A risk provision of 0.3m has been set aside for potential changes in cost prior to financial close. This is based on a 50% risk provision for both a potential 1.5% increase in cost due to design risk and the impact of a potential 9 month delay in financial close. The bids received are subject to a 6 month absolute price hold, so the impact of a 9 month delay would be an increase in cost for a 3 month delay.

The £34.5m unitary payment on this basis at a 2008/9 price base is slightly in excess of the base affordability plan previously defined by the Trust of £34.2m. However it is well within the £37.6m cap on the unitary payment agreed when permission by the Department of Health was given to close the dialogue. There remains £3.1m headroom above the risk-adjusted unitary payment before the unitary payment cap would be breached, which is almost 10%.

Accounting for the PFI Scheme on the Balance Sheet

Under UK GAAP, PFI schemes in the NHS have generally been "off-balance sheet" which meant in practice that the unitary payment is charged to the revenue account. However, because the PFI building reverts to the Trust at the end of the concession period, an adjustment was made to the accounts each year to ensure that by the end of this period the estimated value of the buildings are included on the balance sheet. This adjustment reduces the charge to the revenue account and results in a gradual build up of the asset value on the balance sheet over the concession period. The extent to which the revenue charge was below the actual cash value of the UP was assessed at £4.5m per annum based on estimated unitary payments prior to closing the dialogue.

Under HM Treasury's application of International Financial Reporting Standards (IFRS) in relation to PFI contracts and similar arrangements, this PFI scheme should now be accounted for as "on balance sheet". This means that the Trust should record the property associated with the Project as a tangible fixed asset in accordance with International Accounting Standard ('IAS') 16 – 'Property, Plant and Equipment' – and record and measure the associated long term liability to pay for the asset in accordance with the calculation methods set out in IAS 17 – 'Leases'. The charge to the income and expenditure account consists of finance lease interest, operating costs and depreciation and PDC dividend.

The Trust has a model for assessing the impact of on balance sheet accounting in line with accounting standards. This was initially commissioned from PWC, and has subsequently been refined by the Trust (with the refinements being validated by PWC). A key factor that affects the impact of going on balance sheet is the "fair value" assessed for the PFI building. Under the standard, the sum initially capitalised includes the bidder development costs and rolled up interest as well as the construction cost of the scheme. The fair value of the asset will be based on a District Valuer assessment on scheme completion, and the Trust modelling assumes that this valuation will be at 90% of the actual construction cost. This then generates an impairment of 100% of the bidder development costs and rolled up interest, together with 10% of the construction cost, which in total equates to £166m. This is addressed along with other impairment charges in section 10.3.5 below.

There is a higher average revenue cost through the contract term associated with the scheme being accounted for under IFRS in comparison with the previous off balance sheet accounting approach, largely as a result of the impact of depreciation and capital charges. An agreement has been reached between the Trust and NHS South West PCT's to fund this additional cost. Funding will be provided to cover the difference between the on balance sheet charge and the off balance sheet charge, to put the Trust in the same position as it would have been had the scheme been accounted off balance sheet (i.e. £4.5m below the actual unitary charge payment). This funding will be capped at £4.0m at a 2008/9 price base (which equates to approx £4.7m at 2013/14 prices when the building is planned to open).

However, in addition, the revenue impact of going on balance sheet varies through the term of the contract. In the early years the revenue charge is greater than the average, and the position is reversed in the second half of the concession period with the charge being less than the average. The SHA have agreed to provide smoothing funds to keep the annual impact constant.

Table 10.3.2.ii below shows a summary of the impact of on balance sheet accounting, together with impact of the PCT funding and the SHA smoothing mechanism. Full details of on balance sheet accounting and the PCT and SHA funding is provided in Appendix 10.iii.

Table 10.3.2.ii Impact of Unitary Payment on Income and expenditure

	Average	**1st Full Yr 2015/16**	**Year 10 2023/34**	**Year 20 2033/34**	**Year 30 2043/44**
All costs at 2008/09 prices	£000	£000	£000	£000	£000
Unitary Payment	34.1	34.1	34.1	34.1	34.1
Difference between UP and revenue charge	(3.3)	2.9	(0.4)	(4.9)	(12.0)
Revenue charge before risk & SHA/PCT funding	**30.8**	**37.1**	**33.7**	**29.2**	**22.1**
Provision for UP adjustments including risk	0.4	0.4	0.4	0.4	0.4
PCT tariff supplement	(1.2)	(1.2)	(1.2)	(1.2)	(1.2)
SHA smoothing	(0.0)	(6.2)	(2.9)	1.6	8.7
Total impact of UP on I&E after SHA & PCT funding	**30.0**	**30.0**	**30.0**	**30.0**	**30.0**
Memo - Revenue charge is made up of:					
PFI service charges	4.6	4.5	4.5	4.5	4.5
Finance lease interest	18.5	30.0	24.8	15.6	2.3
Depreciation	7.0	6.2	6.3	7.4	8.0
Dividends charges	0.6	(3.6)	(1.9)	1.6	7.2
	30.8	**37.1**	**33.7**	**29.2**	**22.1**

As the table indicates, the projected impact of going on balance sheet averages £3.3m per annum less than the unitary payment in cash terms. Thus, under the terms of the agreement with PCT's, a PCT tariff supplement of £1.2m is assumed. The actual impact will depend critically on the assessed fair value of the hospital on completion. As indicated above, these figures are based on an assumption of a fair value at 90% of the cost of construction. The highest valuation that could be expected would be 100% of the cost of construction. In this event, the impact of going on balance sheet averages £1.2m less than the unitary payment in cash terms and the PCT tariff supplement would be £3.3m.

Normalised Unitary Payment

This is the unitary charge to revenue adjusted to put it on a like for like footing with other schemes. The Department of Health has set a cap for the normalised unitary charge at 12.2% of turnover. The estimated normalised unitary charge for the scheme is shown in Table 10.3.2.iii below. The total of £44.1m equates to 10.0% of estimated turnover, and so is well within the cap. If the unitary payment increased to the agreed cap of £37.6m, the normalised unitary charge would still be well within the 12.2% cap.

The detailed calculations behind the normalised UP are set out in Appendix 10.iii.i and Appendix 10.iii.ii.

Table 10.3.2.iii Normalised Unitary payment as a percentage of turnover

	OBC at 2005/6 prices £m	OBC at 2008/9 prices £m	ABC at 2008/9 prices £m
Risk adjusted unitary payment	36.4	39.2	34.5
Impact of accounting treatment on charge to revenue	-3.6	-3.9	-3.3
Adjustment to convert to a normalised unitary payment	12.0	12.9	12.9
Risk-adjusted most likely normalised unitary payment	44.8	48.2	44.1
Projected turnover 2013/14 @ 2008/9 prices			439.0
Normalised UP as a percentage of turnover	12.2%	12.2%	10.0%

10.3.3 Operational Cost Savings Resulting Directly from the Scheme

The table below shows the synergy and performance savings arising as a direct result of the PFI scheme.

Table 10.3.3.i Operational cost savings resulting directly from the new hospital

	Performance Improvement enabled by new hospital	Two or more Departments reduced to one	Design Related Savings	Savings '08/09 prices £000/year	Savings WTE
Synergy Savings:-					
Theatres, Daycase unit and Recovery		×	×	2,309	100.4
Pharmacy, Radiology and Pathology		×		1,149	31.3
Outpatient Nursing		×	×	296	10.3
Nursing (not ward based includes clinical site management team)		×	×	596	14.5
Junior doctor rotas and consultant on call rotas		×		527	0.0
Therapy Services		×		380	11.0
Management and Admin Staff		×	×	1,271	31.8
Travel and Transport		×		455	6.0
IT Costs		×		386	0.0
Catering & Restaurant		x		662	49
Portering		x		417	18
Security		x		250	0
Other Facilities Support		×		222	7.0
Non Pay Harmonisation though procurement		×		150	0.0
				9,070	279
Lower Nursing Costs of Larger Wards			×	1,638	65.8
Bed savings - 50 beds	×			2,594	62.5
Further Performance Savings	×			2,594	62.5
Total Savings				**15,897**	**469.2**

There are three key drivers for savings from the new hospital scheme:

Performance improvement enabled by new hospital

- The overall reduction in bed requirements resulting from improved clinical productivity through lower length of stay and higher daycase rates over 2008/9 to 2013/14 is 294 beds. Of this, a 50 bed reduction is assessed to be attributable solely to the new hospital, as a consequence of the move to 75% single rooms (reducing infection rates) and the design and adjacencies of the hospital, particularly the larger acute assessment area with close adjacency to the Emergency Department.

  Savings due to lower nursing costs of larger wards were established at OBC based upon national nurse staff mix compared to ward size provided by the Audit Commission.

- A further reduction in bed requirements of 50 beds can be achieved in the year after opening once the new community facilities have been bedded in.

Two or more departments reduced to one

- There are a large number of services currently provided from two or more locations, which will be provided from one location in the new hospital. The main examples are theatres, recovery, daycase units, radiology, pathology, pharmacy and catering. This enables significant economies of scale to be achieved in these departments.

- Staff savings in facilities management areas were established at OBC and have been

reviewed and revised as necessary for the ABC. The original savings calculations included a review of ERIC data for national comparison.

- The move to a single site reduces the cost of out of hours junior doctor and emergency theatre staffing, reduces management costs and avoids cross-site transport costs.

Design related savings

- The large flexible wards designed for the new hospital reduce staffing costs, even taking account of the fact they include 75% single rooms
- A single medi-room facility integrating the current traditional separate daycase and recovery areas enables more productive use of capacity and staff.
- The move to an integrated outpatient area reduces staffing costs by allowing more flexible use of nursing staff and reception staff.

The savings have been agreed by the relevant managers and plans are in place to control and capture those savings

Further detail on the planned savings is set out in Appendix 10.iv.

The Trust is seeking to avoid redundancies as far as possible. This will be managed through natural staff wastage and redeployment. However, due to the timescales involved there is a risk of staff redundancy. As a result of this a provision has been included based on 5% of pay savings requiring a redundancy and an average cost of redundancy of 3x annual saving, resulting in an overall contingency of £2.1m.

10.3.4 Overall Recurring Revenue Impact of the Scheme

Table 10.3.4i Recurring revenue impact of the new hospital (at 2008/9 prices)

	OBC	ABC
	£m	£m
Revenue Impact of PFI charges for new Hospital		
Average charge to revenue resulting from PFI contract	35.3	30.8
Provision for UP adjustments including risk		0.4
Average SHA smoothing		0.0
PCT Tariff supplement		(1.2)
	35.3	**30.0**
Other costs associated with the new hospital scheme		
Capital charges on associated enabling works & equipment	1.9	3.1
Premises running costs of new hospital & enabling schemes	7.8	10.2
Impact on third party income	(0.8)	(0.1)
	8.9	**13.2**
Gross cost of the new hospital scheme	**44.2**	**43.2**
Costs savings from release of existing accommodation		
Premises running costs	(11.4)	(10.7)
Capital charges	(13.2)	(11.4)
	(24.7)	**(22.2)**
Operating cost savings		
Synergy and design related savings	(9.5)	(10.7)
Performance related savings	(6.5)	(5.2)
Total savings	**(15.9)**	**(15.9)**
Net recurring revenue impact	**3.6**	**5.1**
Net recurring revenue impact if UP was at base level before risk		**4.9**
Net recurring revenue impact if UP was at the cap level		**8.2**

This table shows the risk adjusted unitary charge of £30.0m (net of the PCT tariff supplement to

reflect balance sheet treatment), plus additional consequential costs of £13.2m, giving a total gross revenue impact of £43.2m. This cost is off-set by:

- £22.2m of capital charges and premises costs being released from Frenchay and Southmead.
- £15.9m of synergy and performance savings attributable to the scheme.

The resultant net recurring revenue impact is £5.1m on a risk adjusted basis, which equates to approximately 1.1% of trust turnover. If the risk could be managed out this net cost would be £4.9m, whilst if the full risk impact, including the maximum potential exceptional funding costs resulted it would be £8.2m. Appendix 10.v. shows the revenue impact on a year by year basis.

The £5.1m net recurring cost is affordable as the Trust is generating surpluses in its medium term financial plan sufficient to absorb this net cost and remain in surplus. The projected surplus in 2015/16 (after taking account of the cost of the new hospital) is £11.9m. This is demonstrated in section 10.3.6 below.

10.3.5 Transitional Income and Expenditure

The following table shows the income the Trust would receive under the standard national formula for post-completion transitional costs, mapped against predicted expenditure. This is based on 7.5% of the VAT inclusive scheme capital cost. The capital cost of the scheme on this basis is £543.3m, and so the proposed transitional funding is £40.7m. While the final figure will depend on the actual capital cost at confirmatory business case stage, the principles of its calculation have been agreed with the SHA which will provide the funding. The assumed phasing matches the projected cost profile as set out above, including project team costs post financial close that are not able to be funded from the pre-completion project funding source outlined below.

Table 10.3.5.i Post completion transitional costs and income

	Capital cost £m	% funding £000	Funding £000							
Capital cost at outturn including VAT	543.3	7.5%	40.7							
	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	2014/15 £m	2015/16 £m	2016/17 £m	2017/18 £m	Total £m
One-off transitional costs										
Disposal of Frenchay land						0.5	0.5		0.0	1.0
Decommisioning/double running costs	0.0	0.0	0.0	0.0	2.0	0.3	0.0	0.0	0.0	2.2
Minor equipment and other initial costs charged to revenue (Category E & D)	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	7.1
Excess travel	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.2	1.2
Premises release phasing difference	0.3	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	1.0
Phasing of savings	0.0	0.0	0.0	0.0	2.6	4.8	3.2	1.5	0.0	12.1
Redundancy, temp. excess staff & agency premium	0.0	0.0	0.0	0.0	2.1	0.0	0.0		0.0	2.1
Capital charge release timing difference	0.0	0.0	0.0	0.0	1.5		0.0	0.0	0.0	1.5
Project team	1.6	1.5	1.5	1.5	1.5	0.5	0.3			8.4
Phase 2 demolition costs & contingency	0.0	0.0	0.0	0.5	4.2	0.0	0.0	0.0	0.0	4.7
Total transitional costs	**2.0**	**1.7**	**1.6**	**2.1**	**21.3**	**6.4**	**4.2**	**1.8**	**0.2**	**41.3**
Total transitional income	**2.0**	**1.7**	**1.6**	**2.1**	**20.8**	**6.4**	**4.2**	**1.8**	**0.2**	**40.7**

The projected transitional costs are £0.5m greater than the transitional income. The difference arises in 2013/14, and the excess cost is built into the Trust's medium term financial plan. The transitional costs will be refined as the scheme goes forward and the Trust will obviously seek to reduce them in line with the available transitional income. The Trust's agreement with the Strategic Health Authority allows only evidenced actual costs to be charged against transitional income.

The pre-completion project management and procurement cost of the scheme to date have been met from NHS Bank and SHA project funding.

The above transitional costs exclude impairment and accelerated depreciation costs, which are covered below.

Impairment and Accelerated Depreciation Charges

There are several different constituent parts to these figures. The distinction between impairment and accelerated depreciation on the existing Southmead site arises from the differences between IAS 16 Property, Plant and Equipment and IAS 36 Impairment of assets. Where there is a change to an asset's useful life (as in the case of the estate that remains in use until the new hospital is built) then IAS 16 takes precedence and there should be a change in the depreciation charge, not an impairment to the carrying amount. Where however assets are taken out of use in the same year as financial close then this is treated as an impairment in accordance with IAS 36.

The following summarises the different elements:

Description	Classification	Year
Parts of the site needed by the PFI bidder for the development and which will be taken out of use before 31 March 2010	Impairment	2009/10
Parts of the site needed by the PFI bidder for the development and which will be taken out of use during 2010/11	Accelerated Depreciation	2009/10 and 2010/11
Parts of the site which will remain in operational use during the period of the building of the new hospital but which will be taken out of operational use upon completion	Accelerated Depreciation	2009/10 - 2013/14
Parts of the site which will remain in operational use during the period of the building of the new hospital and for which there is uncertainty about their future use	Depreciate as normal and impair if the assets do come out of use in 2013/14	2013/14
Enabling building works being brought into use	Percentage impairment	2009/10 – 2013/14
Bringing the new PFI hospital development into use	Percentage impairment	2013/14

Key assumptions in calculating impairment and accelerated depreciation are as follows:

- The effect of the valuation of the estate during 2009/10 in line with modern equivalent asset valuation methodology has not been included. At this stage there is insufficient information to assess the impact. This could significantly impact on the values above. Similarly it is not known what the impact, if any, this will have on bringing assets into use for the first time.

- A level of indexation has been assumed based on current market conditions and past

experience. Again these could have an impact – particularly on the value of accelerated depreciation.

- The figures are based on reaching financial close by 30 November 2009. If this slipped back to February 2010 as is now projected then the split of accelerated depreciation in 2009/10 and 2010/11 would change favourably. This is not yet reflected due to the uncertainty around the actual date of financial close.

- The preferred bidder's schedule of building availability has been used to calculate the figures above and any change in these either due to negotiations over the next few months or any change in timing then this would have an impact overall, especially on the split of accelerated depreciation over the next two years.

Under the principles of IAS 16 the initial recognition of the new PFI on the Trusts balance sheet should be at fair value. Given the nature of the costs in a PFI build and the current valuation methodology, there is also likely to be a significant impairment on completion of the asset relating to the full value of non construction costs such as rolled up interest, and a proportion of the construction costs, as described in section 10.3.2 above. It has been assumed that the fair value of the asset will be at around 90% of the cost of construction. This then generates an impairment of 100% of the bidder development costs and rolled up interest, together with 10% of the construction cost, which in total equates to £165.6m.

The resultant overall estimates of impairment and accelerated depreciation associated with the scheme are shown in Table 10.3.5.ii below and Appendix 10.x.i.

Table 10.3.5.ii Impairment and accelerated depreciation charges

	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	2014/15 £m	TOTAL £m
Impairment - existing site	23.1	6.4	0.0	1.2	0.0	17.4	48.1
Accelerated depreciation - existing site	5.4	11.8	9.1	9.4	5.1	0.0	40.7
Impairment of PFI building on coming into use					165.6		165.6
Total	28.5	18.1	9.1	10.6	170.8	17.4	254.5

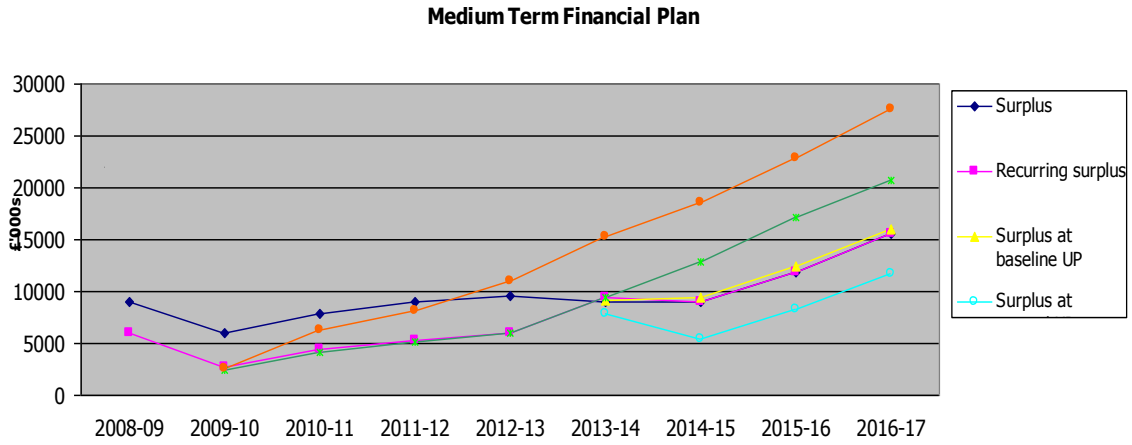
Impairment costs are exceptional non-cash charges that from 2009/10 are likely to be disregarded in assessing Trust financial performance, including the breakeven duty. The costs of accelerated depreciation will be met by earmarked income from the Strategic Health Authority.

There is uncertainty around the future use of the Frenchay site after the vacation of the current acute services accommodation. It is assumed that the Frenchay site is depreciated normally until there is a greater clarity regarding its future use.

10.3.6 Medium Term Financial Plan Incorporating the Impact of the New Hospital Scheme

The Trust's medium term financial plan, incorporating the impact of the new hospital, is shown in the graph below:

Table 10.3.6.i. Medium Term Financial Plan



£m	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Surplus	9.0	6.1	7.9	9.1	9.6	9.0	9.0	11.9	15.5
Recurring surplus	6.0	2.8	4.5	5.4	6.0	9.5	9.0	11.9	15.5
Surplus at baseline UP						9.1	9.4	12.4	16.0
Surplus at capped UP						7.9	5.5	8.2	11.8

The graph shows the Trust maintaining a broadly stable recurring surplus over the period 2008/9 to the opening of the new hospital in 2013/14, and then developing increasing surpluses thereafter. This is because over this initial period the Trust is bearing the negative financial impact of net transfers out to other providers and the net cost of the new hospital scheme as set out in this Appointment Business Case. After 2014/15 the underlying potential for growth in surpluses is realised as no further BHSP transfers or new hospital costs then apply. This underlying potential is demonstrated by the scenarios shown in the graph of the resulting surpluses if the impact of transfers and the new hospital scheme is excluded.

The graph also shows the worst case position if the maximum UP was incurred and a best case position if the risk buffer was not required.

Appendix 10.vi shows further detail on the forecast income and expenditure position in each year. And Appendix 10.xiii shows a detailed cashflow forecast position.
The key assumptions in this plan are shown in the following table:

Table 10.3.6.ii Key assumptions under-pinning the medium term financial plan

Key assumptions behind the medium term financial plan

	9/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
Income								
PCT tariff uplift	2.0%	1.2%	1.2%	1.2%	1.50%	1.75%	1.75%	1.75%
Non-healthcare inflationary uplift	2.0%	1.2%	1.2%	1.2%	1.50%	1.75%	1.75%	1.75%
Impact of HRG4	-0.5%							
Volume related income growth								
- general growth as % of income	0.0%	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%
- renal & HIV growth as % of income	8.0%	7.7%	7.4%	6.4%	6.2%	5.7%	4.9%	4.7%
- other growth as a % of income	2.6%	2.6%	2.6%	2.7%	2.7%	2.7%	2.7%	2.7%
Expenditure								
Pay increase	2.40%	2.50%	2.50%	2.75%	2.75%	2.75%	2.75%	2.75%
Agenda for change/incremental drift	1.50%	1.20%	1.00%	0.70%	0.00%	0.00%	0.00%	0.00%
Non NICE drug inflation	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
NICE drug inflation	4.7%	4.4%	4.1%	3.8%	3.4%	3.2%	3.0%	2.8%
Utilities Inflation	2.5%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Other Non Pay inflation	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Overall non-activity related cost increases as % of cost base	4.6%	4.3%	4.4%	4.1%	3.8%	3.7%	3.7%	3.7%
Cost of activity changes as % of income where not specifically costed								
- general & other growth	65%	65%	65%	65%	65%	65%	65%	65%
- renal & HIV growth	90%	90%	90%	90%	90%	90%	90%	90%
- transfers	65%	65%	65%	65%	65%	65%	65%	65%
Cost releasing efficiency savings(not related to the ABC)	3.0%	3.5%	3.3%	3.2%	2.4%	2.2%	2.2%	2.1%

A summary of projected volume related income changes is shown in Table 10.3.6.iii below.

Table 10.3.6.iii Summary of projected activity-related income changes

08/09 price base	2008-09 £'000s	2009-10 £'000s	2010-11 £'000s	2011-12 £'000s	2012-13 £'000s	2013-14 £'000s	2014-15 £'000s	2015-16 £'000s	2016-17 £'000s	2017-18 £'000s	2018-19 £'000s	Annual Growth
Baseline	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	**333,436**	
Chronic disease growth	0	2,125	4,323	6,599	8,714	10,890	13,030	14,956	16,927	18,944	21,010	**6.00%**
Growth each year		8.0%	7.7%	7.4%	6.4%	6.2%	5.7%	4.9%	4.7%	4.6%	4.5%	
Other Growth	0	598	1,216	1,856	2,517	3,201	3,909	4,642	5,400	6,185	6,997	**2.68%**
Growth each year		2.6%	2.6%	2.6%	2.7%	2.7%	2.7%	2.7%	2.7%	2.8%	2.8%	
General Growth	0	109	3,612	7,488	11,469	15,558	19,758	24,071	28,500	33,048	37,718	**1.08%**
Growth each year		0.0%	1.3%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	1.6%	
Productivity gains	0	-2,115	-3,683	-3,958	-4,284	-4,900	-4,794	-4,686	-4,559	-4,429	-4,295	**-1.09%**
Productivity (gain) each year		-5.1%	-4.0%	-0.7%	-0.9%	-1.7%	0.3%	0.3%	0.3%	0.4%	0.4%	
Transfers	0	12,649	8,434	9,837	-646	-5,390	-4,755	-3,908	-2,789	-1,242	761	
Other adjustments	25,855	26,044	25,702	26,078	25,384	25,068	25,468	25,879	26,304	26,748	27,205	
Total Clinical Income	**359,291**	**372,845**	**373,041**	**381,335**	**376,589**	**377,864**	**386,054**	**394,390**	**403,218**	**412,690**	**422,831**	

Full details with an estimated breakdown by PCT are shown in Appendix 10.vii.

A summary of the cost releasing efficiency savings plans over the period is included as Appendix 10.viii.

The activity related income changes shown above and reflected in the Medium Term Financial Plan are those planned prior to the 2009/10 OPP round. They have not been updated to reflect the higher demand seen in 2008/9 pending completion of the OPP round and agreement on 2009/10 SLAs.

10.4 SENSITIVITY ANALYSIS AND MITIGATION PLANS

Sensitivity analysis has been undertaken of both potential cost variations on the scheme itself, and variances on the Trust's overall forward financial plan outside of the new hospital scheme. A realistic combined downside scenario has then been generated from a selection of both scheme related and non scheme related sensitivities, and the Trust's mitigation plans tested against that scenario.

10.4.1 Sensitivity Analysis of the Scheme

A sensitivity analysis of potential scheme related variations from plan is shown below:

Table 10.4.1.i Scheme sensitivity analysis

[REDACTED]

This table shows four areas in the overall revenue cost of the scheme where there is considered to be greatest risk of variation:

- Increase in capital cost over the £435m adjusted bid cost reflecting design and delay risks. Scenarios of an increase of £5m (to £440m) and an increase of £9m (to £444m), taking account of the identified risks within the Trust risk register.

- Changes in rates and terms that can be achieved in the bank funding market after taking into account the 0.5% rate buffer that is built into the baseline unitary payment, or restrictions in the availability of bank funding that result in the Trust having to accept a more expensive form of finance (for example a Mini-Perm).

  The Trust asked bidders to bid at BAFO stage on the basis of bond finance and mini-perm finance as well as bank finance. The unitary payments submitted by Carillion for these three alternatives are shown in Table 10.4.1.ii below.

Table 10.4.1.ii Impact of alternative sources of finance

[REDACTED]

This shows bond finance is £**[REDACTED]** per annum more expensive than bank finance, which is equivalent to bank finance being having an interest rate around **[REDACTED]**% higher than assumed in the base case. This is based on an extension of the PFI operating period to 35 years. The principle of this extension in the case of bond finance has been agreed with the PFU. The cost of a Mini-Perm is £**[REDACTED]** per annum higher which equates to bank finance having an interest rate approximately **[REDACTED]** % higher than the base case. Both alternative funding scenarios are thus within the unitary payment cap of £**[REDACTED]**. The Mini-Perm scenario is well within the cap, and would appear at this stage to be the preferred alternative if bank finance was not available.

The sensitivity analysis shows the impact of finance costs being £5.2m lower or £3.5m higher than the base based on a maximum impact of variations equivalent to +/- 1.5% on bank interest rates.

- Impact of differential inflation where the Trust may gain from a higher inflation impact on cost releases and savings (capital asset charges and staff savings) than on cost increases (primarily the unitary payment linked to RPI).

- Scheme related synergy and performance savings being under or over achieved.

The table (10.4.1.i) shows a worst case position of the unitary payment being £4.0m higher than planned, and the overall net cost £5.6m higher, and a best case position of a unitary payment £4.9m lower than planned, and a net revenue impact £7.1m lower.

These extremes are unlikely. The realistic downside risks are largely around any further increase in bank funding rates and/or terms, and the risk of not fully achieving the planned savings. The risk of a further increase in funding rates could potentially be managed by deferring financial close or through the fact that the Mini-Perm funding model could result in the unitary payment being less than the quoted level if market bond terms had improved by the time of refinancing. The general risk of increased costs due to problems accessing commercial finance has been reduced by the recent Treasury announcement that it is prepared to provide senior debt funding in certain circumstances where commercial debt was not available or was not economic.

The risk allowance allowed for in the unitary payment cap is £3.4m over the base plan excluding risk, and this is a reasonable reflection of a realistic worst case scenario. The impact of this scenario, alongside the scenario of the risk provision in the risk-adjusted unitary payment not being required, has then been incorporated into an analysis of the sensitivity of the Trust's overall medium term financial plan, as described in the next section.

10.4.2 Overall Trust Financial Plan Sensitivity Analysis

A sensitivity analysis of the Trust's overall medium term financial plan has also been undertaken. This assumes that the net financial impact of the new hospital scheme is within the range described in the section above; that is between £4.9m and £8.2m with a risk-adjusted base case of £5.1m.

The sensitivities that have been analysed are as follows:

- Impact of general activity growth 0.5% lower than projected 2009/10 to 2016/17
- Impact of general activity growth 1.0% lower than projected 2009/10 to 2016/17
- Impact of CIPS achievement 5% lower than planned over 2009/10 to 2016/17
- Impact of CIPS achievement 10% lower than planned over 2009/10 to 2016/17

The impact of these scenarios on the projected surplus in 2016/17 is shown in Table 10.4.2.i below:

Table 10.4.2.i. Medium term financial plan sensitivity analysis

	Cumulative Income Impact in year 8 (2016/17)		I&E Impact in Year 8 (2016/17)	Revised I&E surplus/(deficit) in year 8 (2016/17)
	£m	% change in	£m	£m
Baseline surplus				
New hospital scheme net cost on base plan before risk				16.0
New hospital scheme net cost on risk adjusted plan				15.5
New hospital scheme net cost on UP cap basis				11.8
Impact of general activity growth 0.5% lower per annum	-18.5	-3.9%	-6.5	
New hospital scheme net cost on base plan before risk				9.5
New hospital scheme net cost on risk adjusted plan				9.1
New hospital scheme net cost on UP cap basis				5.3
Impact of general activity growth 1.0% Lower per annum	-36.3	-7.7%	-12.7	
New hospital scheme net cost on base plan before risk				3.3
New hospital scheme net cost on risk adjusted plan				2.8
New hospital scheme net cost on UP cap basis				-0.9
CIPS achieved 2008/9 to 2016/17 5% below plan			-5.0	
New hospital scheme net cost on base plan before risk				11.0
New hospital scheme net cost on risk adjusted plan				10.5
New hospital scheme net cost on UP cap basis				6.7
CIPS achieved 2008/9 to 2016/17 10% below plan			-10.0	
New hospital scheme net cost on base plan before risk				6.0
New hospital scheme net cost on risk adjusted plan				5.5
New hospital scheme net cost on UP cap basis				1.7

Further sensitivity analysis is provided in Appendix 10.x.

The switching points at which reduced activity growth or CIPS under-achievement would taken the Trust into deficit in 2016/17 are shown below in Table 10.4.2.ii.

Table 10.4.2.ii.Switching points at which the Trust would move into deficit in 2016/17

	Switching point at which Trust would move into deficit in 2016/17
Annual reduced growth below projected level 2009/10 to 2016/17	
New hospital scheme net cost on base plan before risk	1.2%
New hospital scheme net cost on risk adjusted plan	1.2%
New hospital scheme net cost on UP cap basis	0.9%
Percentage CIPS under-achieved over 2009/10 to 2016/17	
New hospital scheme net cost on base plan before risk	15.9%
New hospital scheme net cost on risk adjusted plan	15.5%
New hospital scheme net cost on UP cap basis	11.7%

This shows that if the UP for the new hospital scheme was at it cap, then the Trust would move into deficit by 2016/17 if either activity growth was 0.9% per annum under the base plan or if savings were 11.7% below plan.

10.4.3 Combined Realistic Downside Scenario offset by Mitigation

We then combined the scheme and non scheme related downside risks to generate a realistic combined downside scenario, and tested the Trust's mitigation plans against that scenario.

The downside risks included in the scenario are as follows:

- 1.5% per annum lower PCT tariff uplift from 2011/12, to reflect a worst case impact of the current economic climate. The base plan assumes tariff uplifts over this period of between 1.2% and 1.5%, so this downside sensitivity is covering a scenario of small negative tariff uplifts over the period.
- 1.0% lower annual growth in activity from 2009/10. Again, this reflects the potential impact of the economic climate on NHS funding.
- A £9m increase in capital cost to £444m.
- An increase in funding rates and terms equivalent to a 1.5% rate increase on senior debt.
- Synergy savings 10% lower than plan.
- Clinical performance savings 10% lower than plan.

In the event of these risks occurring, the Trust would mitigate them in the following ways :

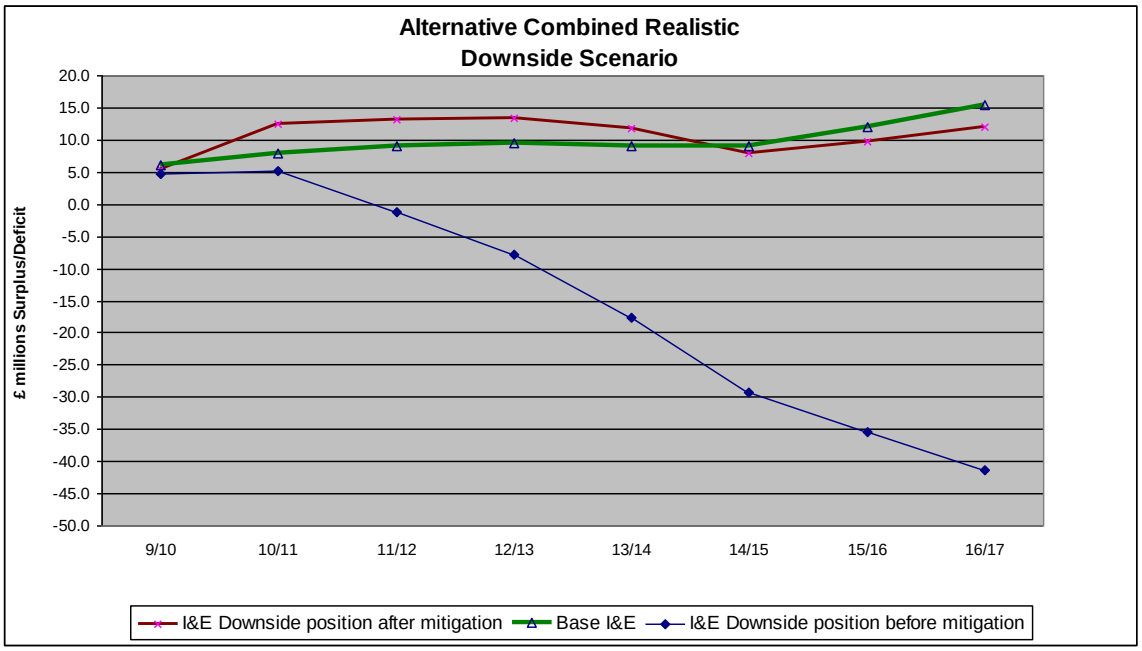
- The impact of lower growth could be mitigated by taking out the resultant spare capacity. As outlined in section 5.7.2, the Trust would intend to do this by moving services remaining in retained estate into the new hospital, and then taking out or re-using that estate. This releases costs of £1m per annum.
- Internal discretionary investment in service improvement could be reduced. An average of £1.7m per annum is built into the medium term financial plan, equating to £13.6m over the 8 year period. If necessary, this could be scaled back. It is assumed in the mitigation plan that it could be halved.
- It is assumed that in the event of tariff uplifts as low as the worst case scenario, then cost pressures driven by national policy decisions (pay rises e.t.c) would be managed down to some extent. A 0.5% annual reduction is assumed from 2010/11.
- Seek to achieve increased efficiency savings. Currently, the Trust's average savings planned over this period are 2.7% of expenditure. In the event of the worse case tariff uplifts occurring, the Trust would target annual savings at least 0.75% per annum higher, thus averaging 3.5%. Historically, the Trust has achieved savings in excess of this level in percentage terms, as shown in Table 10.2ii. The higher level of savings could also be assisted by the potential that exists for further integrating and rationalising clinical services and non-clinical support services across the Bristol region.

The results are shown in Tables 10.4.3i and 10.4.3ii below:

Table 10.4.3.i Tabular analysis of combined realistic downside scenario before and after mitigation

	2009/10 £m	2010/11 £m	2011/12 £m	2012/13 £m	2013/14 £m	2014/15 £m	2015/16 £m	2016/17 £m	Total cash impact over period
Combined realistic downside scenario									
1.5% tariff reduction per annum from 2010/11	0.0	0.0	-5.9	-11.7	-17.7	-24.4	-31.4	-38.9	-130.1
1.0% less growth in activity from 2009/10	-1.4	-2.8	-4.3	-5.7	-7.2	-8.9	-10.7	-12.7	-53.6
£9m increase in capital cost	0.0	0.0	0.0	0.0	-0.2	-0.5	-0.5	-0.5	-1.7
Funding cost higher equal to 1.5% rate increase	0.0	0.0	0.0	0.0	-1.1	-3.5	-3.6	-3.7	-11.8
Synergy savings 10% lower than plan	0.0	0.0	0.0	0.0	-0.3	-1.1	-1.1	-1.1	-3.6
Clinical performance improvement 10% lower than planned	0.0	0.0	0.0	0.0	-0.2	-0.6	-0.6	-0.6	-2.0
Total I&E change	**-1.4**	**-2.8**	**-10.2**	**-17.4**	**-26.5**	**-38.3**	**-47.3**	**-56.9**	**-200.8**
Base I&E	**6.1**	**7.9**	**9.1**	**9.6**	**9.0**	**9.0**	**11.9**	**15.5**	**78.0**
I&E for downside scenario	**4.7**	**5.1**	**-1.1**	**-7.8**	**-17.6**	**-29.3**	**-35.4**	**-41.4**	**-122.7**
Mitigation									
Reduce cost of internal developments by 50% per annum	0.8	1.7	2.6	3.6	4.5	5.4	6.1	6.8	31.5
Remove spare capacity outside of the PFI in the event of lower activity					0.3	0.9	0.9	1.0	3.1
Lower annual cost pressures by 0.5% per annum from 2010/11		2.3	4.7	7.0	9.9	12.4	15.2	18.2	69.7
Increase savings by 0.75% per annum	0.0	3.4	7.0	10.5	14.8	18.6	22.9	27.3	104.5
Total Mitigating Items	**0.8**	**7.4**	**14.3**	**21.2**	**29.4**	**37.2**	**45.2**	**53.4**	**208.8**
I&E position after mitigation	**5.5**	**12.5**	**13.2**	**13.4**	**11.8**	**7.9**	**9.8**	**12.0**	**86.1**

Table 10.4.3.ii Graphical analysis of combined realistic downside scenario before and after mitigation



Normalised surplus/-deficit	9/10 £m	10/11 £m	11/12 £m	12/13 £m	13/14 £m	14/15 £m	15/16 £m	16/17 £m
Base I&E	6.1	7.9	9.1	9.6	9.0	9.0	11.9	15.5
I&E Downside position before mitigation	4.7	5.1	-1.1	-7.8	-17.6	-29.3	-35.4	-41.4
I&E Downside position after mitigation	5.5	12.5	13.2	13.4	11.8	7.9	9.8	12.0

The two tables show that the combined downside scenario has a negative I&E impact of £56.9m by 2016/17, taking the I&E position in that year from a £15.5m surplus to a £41.4m loss before mitigation is taken into account. The impact of mitigation is £53.4m by 2016/17, giving a resulting £12.0m surplus after mitigation.

The biggest individual adverse element of the combined downside risk scenario is the impact of the tariff uplift being 1.5% lower than assumed in the base case. This accounts for £38.9m out of the £56.9m total downside impact by 2016/17. The combined effect of all the other elements is £18.0m by 2016/17. The Trust's mitigation plans can cover the other elements without relying on additional savings. However, the lower tariff uplift is of a scale that it can only be managed by increasing annual efficiency savings by and reducing inflationary cost pressures. If the combination of these two areas of mitigation was 1.25% per annum as modelled, the Trust would remain in healthy surplus. The combination would need to be at least 0.9% per annum to avoid the Trust moving into deficit. Clearly this is a risk, but it is risk that the Trust (and all Trusts) face whether or not the Trust was to proceed with the PFI scheme.

SECTION 11: ECONOMIC ANALYSIS

11.1 INTRODUCTION

At OBC stage the Trust ran the Department of Health's "Value for Money Assessment for PFI" (vfm) model issued in September 2005 to confirm the suitability of the scheme for PFI procurement. The outcome of these assessments indicated that PFI was the preferred procurement route.

A comprehensive sensitivity analysis was applied to the option appraisal process in both qualitative and financial terms and this reinforced the validity of the preferred option.

Since the approval of the OBC the scope of the scheme has not changed and therefore these assessments are still valid. As demonstrated in Chapter 10, the costs of the preferred bid are within the financial framework stated in the ABC and would therefore maintain the PFI vfm margin should the model be re-run.

[HM Treasury has confirmed that further vfm / sensitivity analysis is unnecessary at this stage due to the level of work undertaken at OBC and the confirmation of no changes to the scope of the project and its financial consequences (excluding inflation).]

11.2 ASSESSMENT AT OBC STAGE

At OBC stage the Trust ran the Treasury Value for Money assessment model to confirm the suitability of the scheme for PFI procurement.

The qualitative assessment tests considered the viability, desirability and achievability of the PFI scheme.

In terms of viability, the assessment concluded:

- That an operable contract with built-in flexibility can be constructed and that there are no regulatory obstacles to overcome.
- That a marketable, bankable and deliverable contract can be developed and procured as demonstrated through market interest.
- That through the early work with the BHSP, the Trust with its partner organisations has produced a strategic framework that will allow the PFI to proceed within clear parameters.

With regard to desirability, the Trust analysed the risks to the desirability of the project and concluded that the benefits of PFI would outweigh the expected higher cost of capital.

In terms of achievability, the Trust concluded that both the scale and nature of the scheme allied to the skill and experience base of Trust staff and their financial, technical and legal advisors make the scheme attractive to the market. This quality was tested by soft market soundings.

The quantitative assessment confirmed that "crude PFI vfm" could be achieved with a pre-tax Equity Internal Rate of Return (IRR) of 15%, with a margin of 1.18%. A comprehensive series of sensitivities were undertaken within the model, each of which resulted in the same conclusion.

The outcome of these assessments indicated that PFI was the preferred procurement route.

Since the approval of the OBC the scope of the scheme has not changed and therefore the vfm assessments remain valid.

As demonstrated in Chapter 10, the costs of the preferred bid are within the financial framework stated in the ABC and would therefore maintain the PFI vfm margin should the model be re-run.

The Trust has conducted a robust competitive dialogue procedure, commencing with three short-listed bidders and proceeding to the Final Bid stage. The Trust has also ensured that the bidders accept the standard form and the associated position with regard to the allocation of risk. The risk position has been agreed in dialogue between the Trust and its advisors, the Funder's advisors and DH and has been agreed as appropriate.

As discussed in Chapter 8, Carillion's bid offers an enhanced clinical solution in comparison to the PSC.

SECTION 12: FINANCING THE SCHEME

12.1 INTRODUCTION

The Project will be subject to a Funding Competition. Therefore the Project's financing is currently based upon a standard set of funding terms.

When evaluating the bids, bidders were requested to submit financial models based on assumptions for both bank and bond financing routes. This ABC is predicated upon a bank solution as this is considered most likely during the current financial climate. However, should a bond solution become more advantageous, this funding route will be considered for the funding competition.

Following the Funding Competition, the terms, and if appropriate, the funding structure, will be substituted by the actual terms obtained in the competition.

12.2 FUNDING COMPETITION

The Funding Competition will be set up and run by Project Co. As part of the bid evaluation process, bidders were requested to confirm acceptance of the Department of Health and the Trust's funding competition protocols. The protocols set out both rules for the competition and provide safeguards for the Trust to ensure that it is run in a fair manner.

Both the Department of Health and the Trust's Funding Competition protocols are included at Appendices 12.i and 12.ii respectively.

Since the funding competition is due to take place following selection of preferred bidder the Trust has taken measures to ensure that the Project would be viewed as fundable prior to closing competitive dialogue. The Trust (acting as trustee), appointed due diligence advisors on behalf of the future funder(s). This appointment was made in conjunction with the three bidders during the first stage of competitive dialogue.

The due diligence advisors completed a stage 1 review in which they reviewed the Project itself. Following the stage 1 report, the Trust made some amendments to the ITPD documentation.

During the bid evaluation process, the Trust has requested advice from the due diligence advisors on bid-specific risks/issues to ensure that critical elements of the individual bids would be acceptable to a typical funder. The due diligence advisors will review the full bid documentation and issue a Stage 2 report on the preferred bidder.

These key risks / issues have been discussed with the bidder and been resolved without impact on the price of the scheme.

12.3 FINAL BID FUNDING TERMS

The Final Bid solution is based upon a senior debt structure. Due to uncertainties in the financial markets at present, the Trust requested bids based on a bank and un-wrapped fixed bond funding solutions. The Trust has incorporated the bank solution within the ABC as its base bid.

As a funding competition will be run after selection of the preferred bidder, the final bids were submitted on a set of standard funding terms. These included base rate, margins and cover ratios as set out in the tables below.

12.4 BANK DEBT TERMS

Margin	**Senior Term Facility, Change in Law Facility (CiLF):** Construction margin: 2.50% per annum Operating period margin: – Operating margin: 2.25% per annum **Equity Bridge Facility:** Supported by a Parent Company Guarantee 1.50% per annum Supported by a bank Letter of Credit 1.25% per annum (bank rated A-/A3 or better)
Front End Fee	An arrangement fee of 2.50% of the Senior Term Facility, Change in Law Facility An arrangement fee of 1.00% of Equity Bridge Facility is payable to the Arrangers.
Commitment Fees	During the period which each facility is available, fees calculated at the rates indicated below on the daily undrawn amounts of that Facility. Senior Term Facility: 50% of applicable margin Change in Law Facility 50% of applicable margin Equity Bridge Facility: 50%of applicable margin
Agency Fees	During Construction: £35,000 per annum (indexed from Financial close) Post Construction: £25,000 per annum (indexed from Financial close) Payable semi-annually in arrears.
Gearing	As determined by the cover ratio requirements (base case and/or impact of cash breakeven sensitivities) and shareholder return requirements , with an upper limit of 87.5%
Contract Period	The period commencing on Financial Close comprising construction plus 30 years.
Operating Period	The period of time from end of the Construction Period to the end of the Contract Period
Availability	Term Loan: From the date of satisfaction of the Conditions Precedent until the earlier of: (i) 12 months after the actual construction completion date; (ii) the first repayment date; and (iii) 12 months after the expected construction completion date (Borrower to have the entitlement to pre-draw unutilised amounts in relevant circumstances). Equity Bridge Facility: From Financial Close until practical completion

Final Maturity	Term Loan: the earlier of i) 29.5 years from Financial Close and ii) 6 months before the end of the concession. Equity Bridge Facility From Financial Close until practical completion.
Financial covenants	Minimum: • ADSCR 1.175x • LLCR 1.25x Lock up: • ADSCR 1.10x • LLCR 1.14x Default • ADSCR 1.05x • LLCR 1.08x
Debt Service Account (DSRA)	An account equal to the next 6 months' interest, and principal payments.
Maintenance Reserve Account	An amount equal to 100% of the next year's forecast maintenance expenditure, 66% of the following year's forecast maintenance expenditure and 33% of the following year's forecast maintenance expenditure.
Change in Law Facility (CiLF)	An account equal to 100% of ProjCo's maximum liability.
Final repayment Date	The last day of the Term of the Senior Term Facility
Repayment and calculation dates	31 March and 30 September in each year
Governing Law	The laws of England and Wales.

Margin	**Senior Term Facility, Change in Law Facility (CiLF):** Construction margin: 2.50% per annum Operating period margin: Operating margin: 2.25% per annum **Equity Bridge Facility:** Supported by a Parent Company Guarantee 1.50% per annum Supported by a bank Letter of Credit 1.25% per annum (bank rated A-/A3 or better)
Front End Fee	An arrangement fee of 2.50% of the Senior Term Facility, Change in Law Facility An arrangement fee of 1.00% of Equity Bridge Facility is payable to the Arrangers.
Commitment Fees	During the period which each facility is available, fees calculated at the rates indicated below on the daily undrawn amounts of that Facility. Senior Term Facility: 50% of applicable margin Change in Law Facility 50% of applicable margin Equity Bridge Facility: 50%of applicable margin
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Gearing	As determined by the cover ratio requirements (base case and/or impact of cash breakeven sensitivities) and shareholder return requirements , with an upper limit of 87.5%
Contract Period	The period commencing on Financial Close comprising construction plus 30 years.
Operating Period	The period of time from end of the Construction Period to the end of the Contract Period
Availability	Term Loan: From the date of satisfaction of the Conditions Precedent until the earlier of: (i) 12 months after the actual construction completion date; (ii) the first repayment date; and (iii) 12 months after the expected construction completion date (Borrower to have the entitlement to pre-draw unutilised amounts in relevant circumstances). Equity Bridge Facility: From Financial Close until practical completion
Final Maturity	Term Loan: the earlier of i) 29.5 years from Financial Close and ii) 6 months before the end of the concession. Equity Bridge Facility From Financial Close until practical completion.

<table>
<tr><td>Financial Close Date</td><td>Date to be determined by programme requirements. Note the Trust retains an aspiration for the 30th November 2009</td></tr>
<tr><td>Discount Rate for NPV of Service Payments</td><td>3.5% real</td></tr>
<tr><td>NPV Base Date</td><td>1 April 2009</td></tr>
<tr><td>Price Base Date</td><td>1 April 2009</td></tr>
<tr><td>Buffer</td><td>50bps. The Buffer will be removed at or before financial close (at the direction of the Trust).</td></tr>
<tr><td>LIBOR swap rate</td><td>To be built up based on the following swap curve, plus buffer:

<table>
<tr><th>Swap</th><th>Rate%</th><th>Swap</th><th>Rate%</th></tr>
<tr><td>12 months</td><td>2.5575</td><td>10 years</td><td>3.571</td></tr>
<tr><td>18 months</td><td>1.9675</td><td>12 years</td><td>3.736</td></tr>
<tr><td>2 years</td><td>2.0978</td><td>15 years</td><td>3.909</td></tr>
<tr><td>3 years</td><td>2.4465</td><td>20 years</td><td>3.881</td></tr>
<tr><td>4 years</td><td>2.717</td><td>25 years</td><td>3.75</td></tr>
<tr><td>5 years</td><td>2.9145</td><td>30 years</td><td>3.659</td></tr>
<tr><td>6 years</td><td>3.106</td><td>35 years</td><td>3.6183</td></tr>
<tr><td>7 years</td><td>3.258</td><td>40 years</td><td>3.586</td></tr>
<tr><td>8 years</td><td>3.38</td><td>45 years</td><td>3.6133</td></tr>
<tr><td>9 years</td><td>3.482</td><td></td><td></td></tr>
</table>

Bidders should not assume the use of stepped LIBOR swaps as part of their Reference Bid but are free to do so as a variant.</td></tr>
<tr><td>LIBOR swap counterparty credit margin</td><td>20 basis points</td></tr>
<tr><td>MLAs</td><td>1.5 basis points</td></tr>
<tr><td>Cash balances and reserves</td><td>LIBOR swap rate + Buffer +/- [x] bps.

The Buffer will be removed at or before financial close (at the direction of the Trust).

The relevant LIBOR swap rate will be benchmarked at close. Bidders should propose the mechanism by which the relevant reference rate will be determined (e.g. LIBOR swap with a term corresponding to the average life of the projected cash reserves, etc.). In their responses to deliverable F3.2f and F3.4f, Bidders should propose the spread of [x] bps as a commercial item which will be applied to the benchmarked reference rate at financial close.</td></tr>
<tr><td>Overdrafts</td><td>LIBOR swap rate + Buffer +/- [x] bps.</td></tr>
<tr><td>GIC (fixed)</td><td>Based on the two year swap rate + buffer</td></tr>
</table>

<table>
<tr><td>GIC (indexed)</td><td>Based on the fixed rate adjusted for inflation at 2.5%+ buffer</td></tr>
<tr><td>RPI swap rate (gross of credit margin)</td><td>To be built up based on the following swap curve:

<table><tr><th>Swap</th><th>Rate%</th></tr><tr><td>5 years</td><td>1.489</td></tr><tr><td>10 years</td><td>2.947</td></tr><tr><td>15 years</td><td>3.402</td></tr><tr><td>20 years</td><td>3.615</td></tr><tr><td>25 years</td><td>3.583</td></tr><tr><td>30 years</td><td>3.56</td></tr><tr><td>40 years</td><td>3.48</td></tr><tr><td>50 years</td><td>3.36</td></tr></table></td></tr>
<tr><td>RPI swap counterparty credit margin - bank</td><td>20 bps (covers swap provider)</td></tr>
<tr><td>Inflation rate</td><td>2.5% p/a</td></tr>
<tr><td>Return on Risk Capital</td><td>Blended nominal IRR target return and loan stock / sub debt coupon to be proposed by bidders. Please provide separate term sheets as per the bidder requirement matrix.</td></tr>
<tr><td>Debtors & Creditors Days</td><td>30</td></tr>
<tr><td>Due Diligence Cost Assumptions</td><td>Estimated monitoring fees for the construction phase will be £6700 per month and for the operational phase £7000 per report which will be quarterly, semi annually or annually at the Funder's discretion. Please assume these would expect these will be required quarterly for the full construction period.</td></tr>
<tr><td>Exchange rate (GBPEUR for sizing the EIB facility only)</td><td>1.08</td></tr>
</table>

12.5 BOND TERMS

<table>
<tr><td>Issue Price</td><td>100 per cent</td></tr>
<tr><td>Indicative Terms – Reference Gilt + Bond Margin
(subject to market conditions at Launch)</td><td>Fixed Rate
Reference Gilt: bidders are required to pick the gilt that most closely matches their funding profile (calculated in accordance with sterling bond market convention) from the following benchmark gilts:

<table><tr><th>Gilt</th><th>Yield %</th></tr><tr><td>UK TREASURY 5% 2025</td><td>4.386</td></tr><tr><td>UK TREASURY 4 1/4% 2027</td><td>4.462</td></tr><tr><td>UK TREASURY 4 3/4% 2038</td><td>4.39</td></tr><tr><td>UK TREASURY 4 1/4% 2046</td><td>4.429</td></tr></table>
Bond margin: 3.00%
Plus Buffer</td></tr>
<tr><td>Rating</td><td>A- or better (stable outlook) by Standard & Poor’s and Moody’s respectively</td></tr>
<tr><td>Hedging during construction</td><td>This will take the form of a Guaranteed Investment Contract (GIC) or similar mechanism acceptable to rating agencies. The GIC provider will have an AA-/Aa3 or better rating.</td></tr>
<tr><td>Status of the Bonds</td><td>Senior</td></tr>
<tr><td>Bond Amortisation</td><td>Principal on the Bonds will be redeemed semi-annually in accordance with a sculpted amortisation schedule commencing on a specified date, falling up to 12 months after the end of the construction period, with the final redemption on the Final Maturity Date.</td></tr>
<tr><td>Final Maturity Date</td><td>For a Project length of up to 35 years from financial close, 6 months before the end of the concession. For concession lengths of up to 40 years, 12 months before the end of the concession.</td></tr>
<tr><td>Interest Payment & Bond Amortisation Dates</td><td>31st March and 30th September in each year.</td></tr>
<tr><td>Interest</td><td>Semi-annual interest on principal outstanding accruing on an actual/actual basis on each Interest Payment Date.</td></tr>
<tr><td>Gearing</td><td>As determined by the cover ratio requirements (base case and/or impact of cash breakeven sensitivities) and shareholder return requirements with an upper limit of 87.5%</td></tr>
<tr><td>Pinpoint Equity</td><td>£50,000</td></tr>
<tr><td>Underwriting & Management Fees</td><td>On Issue, the Issuer will be required to pay underwriting and management fees of 0.30% of the aggregate proceeds of the Bonds, subject to a minimum of £200,000. Underwriting and management fees will not be payable in respect of the Variation Bonds until the Variation Bonds are sold into the secondary market.</td></tr>
<tr><td>Credit Rating Costs</td><td>£750k</td></tr>
</table>

Ongoing Rating / Trustee Fees	During Construction: £60,000 per annum (indexed from Financial close) Post Construction: £30,000 per annum (indexed from Financial close) Payable semi-annually in arrears.
Debt Service Reserve Account	An amount equal to the next 6 months' interest and principal payments on the bonds
Maintenance Reserve Account	An amount equal to 100% of the next year's forecast maintenance expenditure, 66% of the following year's forecast maintenance expenditure and 33% of the following year's forecast maintenance expenditure.
Change in Law Reserve Account	An amount equal to 50% of ProjCo's maximum liability.
Financial covenants	Minimum: • ADSCR 1.20x, subject to meeting cash breakeven sensitivity thresholds • LLCR 1.25x Lock up: • ADSCR 1.10x • LLCR 1.15x Default • ADSCR 1.05x • LLCR 1.09x
Governing Law	The laws of England and Wales.

12.6 MINI PERM MANDATORY VARIANT BID

Introduction

Bidders are asked to confirm their willingness to move to a long term debt funded project finance structure whereby early refinancing is encouraged through the use of ratcheting margins and cash sweep mechanisms (a Soft Mini Perm), and where the risk of refinancing is taken solely by the bidder, on the basis described below.

The following applies only to the commercial loan; the EIB loan should be assumed to remain in place throughout on the existing terms provided.

Terms

Bidders are asked to model such a structure based on the following terms. Where terms are not specified, existing bank terms from F3.2/3.2f should be used.

Tenor	29.5 years (legal maturity)
Maximum gearing	87:13
Margins (figures in bps)	Construction 250 Ops 1-2 225 Ops 3-10 325 Ops 11+ 400
Reserves	Please assume accounts in place of facilities for the duration of the financing
Repayment	Repayment profile set based on standard sculpted amortisation over legal maturity. Cash sweep to apply from the end of phase 1 plus 2 years. Cash sweep to utilise all free cash post reserve account movements.
Cover Ratios – Condition Precedent	Cover ratio requirements as per F3.2/3.2f for sculpted amortisation of loan over legal maturity. Please assume these remain at the original terms of x1.175 ADSCR and x1.20 LLCR
Cover Ratios – default	Tests based on sculpted amortisation of loan over legal maturity
Hedging	Interest rate and RPI swap profiles to be based on sculpted amortisation over legal maturity

Submission required

Two different financial models should be provided:

- Mini Perm Base Case - assuming a successful refinancing occurs at the end of phase 1 completion plus two years, based on the existing bond terms from F3.2/3.2f
- Mini Perm Downside – assuming no refinancing takes place

Bidders should specify a minimum acceptable IRR requirement for the Mini Perm Downside (the Mini Perm Downside Required IRR) for them to accept the refinancing risk in full (although the Mini Perm Base Case model above assumes a bond refinancing, refinancing could of course be in the bank market).

The equity IRR for the Mini Perm Base Case should be set at a level that leads to an IRR equal to the Mini Perm Downside Required IRR should the Mini Perm Downside case occur. In the event this increased IRR is unacceptable the Trust will wish to discuss limited refinancing risk sharing with the sponsors in return for a reduction in this level and subject to the agreement of PFU.

Bidders will receive 100% of the benefit of any refinancing up to their existing Base Case IRR requirement. Over and above that the standard form sharing of refinancing gains shall apply. Note all cases must meet the sensitivity requirements set out in F3.2/3.2f.

12.7 EIB FACILITY AVAILABLE

[REDACTED]

12.8 FUNDING STRUCTURE OF THE SCHEME

[REDACTED]

The proposed sources and uses of funding are shown in the table below.

Sources	£000	Uses	£000
[REDACTED]			

The preferred bidder has used an equity bridge facility to reduce the cost of funds. The proceeds of the subordinated debt investment will be used to repay the outstanding balance of the equity bridge facility (and further to supplement cover ratios in the early years of operations). The subordinated debt has the following terms attached:
Subordinated Debt:

[REDACTED]

12.9 TAX AND ACCOUNTING ASSUMPTIONS

The Trust's Tax and Accounting Advisors have reviewed the bid documentation and relevant sections of the financial model. They have confirmed that the financial model has been prepared in accordance with [UK GAAP / IFRS]. They have also confirmed that the financial model is tax efficient. Composite trading provisions have been applied and the Trust will receive full benefit for this.

12.10 REVIEW OF FINANCIAL MODEL

The Trust's financial advisors, Royal Bank of Canada Capital Markets, can confirm that they have reviewed the financial model and that the inputs are consistent with the capital, life cycle and facilities management costs submitted by Carillion.

The breakdown of the capital costs and lifecycle costs have been verified by the Trust's technical advisory team, Integrated Building Services. Similarly, the Trust's technical advisors have also verified the level of facilities management costs.

Carillion's financial advisors have performed a first stage review of the model audit process and confirmed that the financial model appears to be accurate and robustly constructed. Carillion's financial advisors, HSBC have performed a review of the tax and accounting assumptions contained within the Financial Model and confirmed that the assumptions are reasonable and

accurately applied.

12.11 VALUE FOR MONEY OF FUNDING

The Trust's financial advisors have benchmarked the funding costs of the scheme against other similar sized schemes. The review considered the Project IRR and blended return from equity/subordinated debt package. The review confirms that the elements of the funding package not subject to the funding competition represent value for money.

The funding competition will ensure that funding terms at Financial Close represent optimum value for money and that the form of funding is the best available.
At the point of Financial Close, the cost of funds and interest rates will be benchmarked to ensure the value for money position provided is acceptable.

SECTION 13: WORKFORCE

13.1 BACKGROUND

Effective planning of the new Southmead Hospital requires development of a workforce plan which not only describes what the workforce will look like in 2013, but also the transitional plan, which sets out how the Trust will staff the existing facilities, prepare for the development of new roles, and re-skill of the workforce to work in new and challenging ways.

This is a huge change management process, which will require visionary management and commitment to make sure it works, and delivers a workforce fit for 2013 and beyond.

The modernisation of services within the new hospital and the workforce to deliver these services is accompanied by challenges of changing demography including an ageing population, and changing profiles in terms of gender, age, skill mix, new roles and expectation of work life balance.

The development of the workforce plan for the new hospital must be taken forward on a multi-professional, collaborative and integrated basis. This represents a significant cultural challenge, because it forces the blurring of roles and confronts professional boundaries.

This section will attempt to explain the Trust's vision in respect of its services and workforce, the challenges that face us, and the solutions proposed for that challenge.

13.2 INTRODUCTION

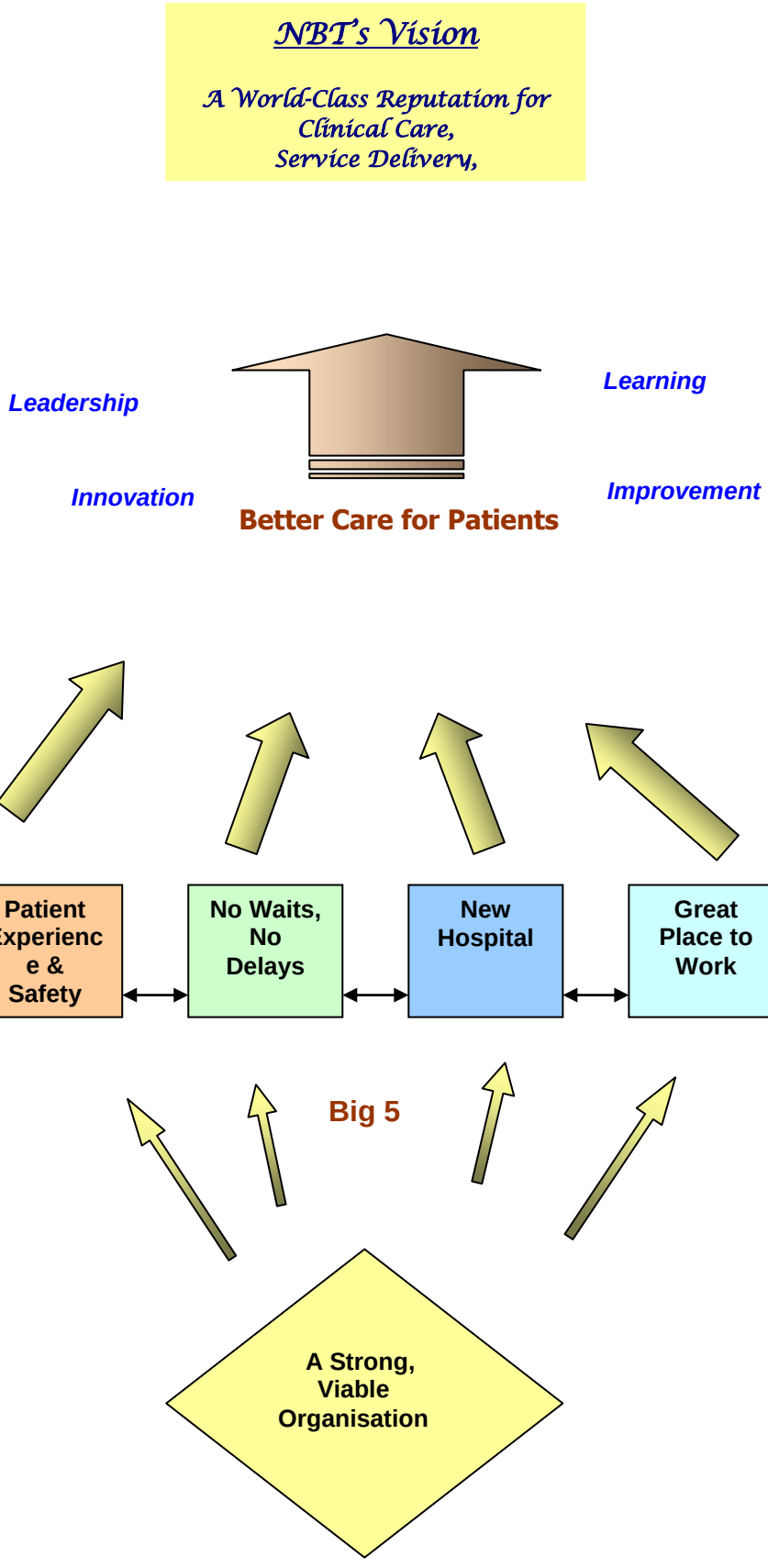
NBT has strong aspirations to build a world-class workforce. The Trust also has a vision to build a world-class reputation for clinical care, service delivery, research and development. The Trust workforce will play a crucial role in realising this ambition.

NBT remains committed to the principles underpinning the BHSP and to working closely with primary care, social care and community service providers to ensure services of the highest quality are provided to patients. Workforce strategies are being developed in response to these key drivers.

To support this, the Trust has a statement of core values entitled 'Building Mindsets'. This blueprint forms the basis of the workforce and organisation development strategy of the Trust:

- Maintaining a passion for patient care, experience and safety.
- Innovation and excellence through teamwork.
- Nurturing and multiplying talent across the Trust.
- Designing an ambitious future, responsive to change.
- Supporting a 'can do' culture through effective leadership at all levels.
- Enhancing flexibility in the way we work.
- Treating patients, visitors and colleagues with dignity and respect.
- Strengthening our competitive position in the marketplace.

The Trust has also committed itself to a series of long term objectives, shown diagrammatically as follows:



13.3 DRIVERS FOR CHANGE

In looking at the new hospital staffing we need to identify the key areas leading to the changing requirements for the workforce, and the competition for staff and services form other healthcare providers. This section highlights those changes and developments.

Location of Care: In addition to the new Southmead Hospital, a range of services will be provided across the network of community sites, increasing numbers of staff providing services within the community.

For this to be a successful model there must be good integrated workforce planning and working between PCTs, acute Trusts, social services, voluntary sector. NBT must partner and work with a network of organisations.

Independent Sector Treatment Centres (ISTCs): The expansion of the ISTC network across the South and West has now been confirmed and this will have significant implications for the plurality of provision.

ISTCs will be competitors for healthcare staff. NBT will need to ensure that it does provide a working environment, which is attractive to staff in the healthcare market. This means not only salary, but career development.

Diagnostic Services: Provision of these services in community centres will require a different way of working for diagnostic staff.

Impact of IT and Technology Advances: The future should deliver up to date technology that works i.e. – IT, Stores, Food Delivery, EPR, POD system and ESR – staffing data.
There will need to be a good IT infrastructure which will support care at all points by delivering:

- Activity data.
- Proof of outcomes along the care pathway (and people will be able to use it).
- With access to Shared care records.
- Increased requirement for patient monitoring systems.

This will require development of new roles to support, but all roles in future will have to embrace IT Systems.

Technological Advancements: Means that we need a different skill set amongst the staff to deliver care in a new way. However also the advancement in medical technology and equipment will mean that this equipment will need to be maintained, and suggests a higher degree of specialisation amongst the supporting technical and scientific staff.

National Influences: National priorities and targets will continue to impact on service delivery. The recommendations in the 'NHS Next Stage Review Final Report – High Quality Care for All' set out clear goals for the NHS.

Demographic: Demographic, epidemiological and social changes including changes in attitudes to work are also key drivers. Appendix 13.i shows how the population is changing, with significant increases in the over 65 year olds, but decreases in 15 – 24 year olds, with only half the population being economically active. It is known that ethnicity and diversity in the population will continue to increase, which will influence how we provide services, but also the availability of staff to work. This may influence the way we offer work to the local population.

While median salaries are comparable, external commercial factors including the development of the Cabot Circus shopping centre will affect recruitment of a broad range of staff.

Pay Modernisation: The three main strands of pay modernisation; Agenda for Change, the General Medical Services Contract and the Consultant Contract will soon be joined by new contracts for staff and associate specialist doctors. It has provided a framework which provides a unified "toolkit" with a common goal – to reward, motivate and free up staff to deliver redesigned, improved services to patients.

Pay modernisation provides the vehicle to developing improved services to the public, including delivering clinical priorities, with an approach which will provide improved team working and improved management and development of staff.

Pay modernisation has resulted from a major investment of public money and the Benefits Delivery Plans are required. The flexibility to create new roles, and cross professional working is key in demonstrating that benefits are being realised from this investment.

13.4 HR STRATEGY

One of the Trust's key objectives is to work towards ensuring that NBT becomes a 'Great Place to Work'.

This includes being able to attract new much needed staff into the NHS and retain our existing staff by improving their working lives. We have developed our work/life balance policies, and other policies required to ensure that the Trust can become a Great Place to Work; the challenge is ensuring that both staff and managers recognize the benefits this can bring, and that they work together in changing the culture of the organisation to deliver these benefits.

In pursuit of a 'Great Place to Work' and the achievement of the objectives and aspirations of the organisation, the staff and the patients, the Trust is developing a strategically cohesive approach to the workforce and organisation development agenda.

This will start through the following strategic and operational intentions:

13.4.1 Learn What It Is To Be a 'Great Place to Work' and Make It Happen

- Learn from good examples across the Trust and spread this practice everywhere.
- Promote the great innovation and real successes achieved by staff to a wider audience.

13.4.2 Ensure 'Leadership', 'Learning', 'Innovation' and 'Improvement' Form a Part of Everyone's Jobs

- Implement the new workforce and organisation development strategy that reinforces and enables the success of the 'Big 5' through the four themes of *leadership*, *learning, improvement* and *innovation,* taking steps towards a 'gold standard' in employment practice and offering staff greater job satisfaction and ability to contribute.
- Develop the concept of a 'learning organisation".
- Implement the leadership and management development strategy and work programme.
- Support new programmes of care (e.g. simple surgery) through effective organisation development leadership.

13.4.3 Engage Staff and Teams in Developing High Quality Services

- Support clinical teams in defining their aspirations for a high quality service, enabling them to set the direction and pace of change.
- Engage staff at all levels in service improvement and redesign and demonstrate this with real examples in all directorates and services.
- Develop new, innovative ways to improve two-way communication.
- Improve the overall trend in staff survey results.

13.4.4 Exercise Our Right to an Annual Appraisal of Our Performance and Development

- 95% of all staff to have received an annual appraisal in the 12 months up to end-September 08.
- Improve quality of appraisals.
- Knowledge & Skills Framework (KSF) process to be re-launched.

13.4.5 Focus Training and Development on the Things That We Need To Do Our Jobs

- Staff induction programmes improved.
- Ensure all mandatory training requirements are met.
- Directorate training plans formulated and executed.

13.4.6 Ensure That Our Workforce Reflects the Diverse Population of Bristol and South Gloucestershire

- Provide support and action so that under-represented groups are better represented at all levels of management.
- Ensure equality impact assessments carried out for all major service developments.

13.4.7 Seek Out and Develop 'Talent' Across the Organisation

- Recruit the most talented staff to the Trust.
- Make tangible efforts to improve succession planning for executive directors, clinical directors, general managers, assistant general managers, heads of nursing and heads of speciality or profession.

13.4.8 Ensure That Our Managers Are Exceptional At Managing Staff

- All managers to take personal responsibility for improving staff morale, motivation and capability.
- Reduce sickness absence and staff turnover and improve the staff-management relationship.
- Define core management competencies and establish a system for assessment and development of current managers.
- Develop new ways of working through the proposed changes in HR support (e.g. e-HR, advice line, streamlined policies and procedures), to assist managers in the Trust to improve their management skills.
- Continue to develop ward and team leaders through the Beacon Project.
- Refocus the role of the Matron following the Chief Nursing Officer letter identifying key areas of the role, and implement an internal review.

13.4.9 Ensure That We Are Appropriately Rewarded or the Work We Do

- Find new, innovative ways to reward success.
- Ensure full compliance with Trust-wide pay system, ensuring the provision of a fair and equitable pay and reward system.
- Develop the overall staff benefits package.

13.4.10 Tackle Poor Behaviours And Eliminate Bullying and Harassment from the Workplace

- Find new ways to tackle poor behaviour and eliminate bullying and harassment from the workplace, engaging with staff for their views and suggestions.

13.4.11 Promote Well-being and Positive Health at Work

- Reduce short-term sickness levels in all directorates.
- Review occupational health contract to ensure that it provides precisely what the Trust needs.
- Focus on 'hotspots', taking necessary action to alleviate stress at work.
- Review quality of, and access to, staff food.
- Consider new initiatives to promote health and well-being.

Consideration is being given to using the Investors in People standards to ensure the previous work on IWL has been mainstreamed.

There will be implementation of a new leadership and management strategy and work programme, reinforcing the right and responsibility of managers to manage, and providing leaders with the development, support, confidence and autonomy to excel.

There will be continued improvement in the process for Appraisal which ensures all staff have objectives aligned with Trust objectives, and personal development plans arising from these.

There will be an ongoing review of policies and procedures ensuring continued compliance with good practice and legislative changes, to ensure work life balance is sustained.

There will also be acceleration of staff engagement techniques as part of the drive for further service improvements.

13.5 KEY SERVICE ISSUES

Before exploring the workforce changes, it is necessary to look at how the services will be provided, and the key factors which will affect how the hospital is staffed. These issues are outlined below:

13.5.1 Type of Patients

There will be a change to the type of patients, which will be treated as follows:

- Increasing acuity
- Increasing dependency
- Increasing complexity of care
- Surviving longer with chronic conditions needing long term care
- Reduced length of stay in the acute hospital

It is known that patient expectations are increasing:

- Patient centred care/patient choice and centres of excellence, improved outcomes
- Community care – Security
- The implementation of the Expert Patient Programme will mean that patients are educated to take responsibility for and manage their own health care

There must also be good public awareness and education.

- A & E attendance instead of waiting for GP
- Admission avoidance must be increased
- Correct point of entry for patient to decrease LOS

13.5.2 New Provision of Care

A hospital has always had to have a 365 days 24 hour caring services However many departments are still based on providing a 9 – 5 service. This will need to change in the future and while the move to all services being 24/7 365 is unnecessary, there will still be a need for all departments and staff areas to review how they provide a care and treatment service which incorporates sufficient flexibility to meet patients needs.

The new hospital will have a much reduced bed base from that which currently exists in the Trust, being approximately 800 beds – which includes 48 Critical care beds, and will have at least 75% single rooms, contained in one environment. As such issues such as travel around the site should be minimised, especially with the planning of appropriate adjacencies for departments. It could however mean an increase in the nursing and domestic staffing levels. The design of the site should ensure that Infection control "issues" (HAIS) would be a thing of the past.

13.6 IMPACT OF THE NEW SERVICE MODEL

The new model of care presents a range of challenges to the development of a workforce that has the knowledge and skills to meet the new requirements.

Key features of the clinical model, which have an impact on workforce are:

- A strengthened primary care system
- Integrated re-ablement services
- A range of specialist teams combining hospital and community expertise
- A comprehensive urgent care network
- An emergency and acute assessment and treatment service
- A strengthened critical care team
- A flexible inpatient service
- A systematic planned surgical service
- Rapid response diagnostic services

The impact of each of these elements of the clinical model on workforce is set out in the following sections.

13.6.1 A Strengthened Primary Care System

The development of the primary care sector will have a number of implications for the primary care workforce. The main areas of development will be:

- The application of harmonising systems, including protocols, will require primary care to work in a more synchronised manner and will require primary care teams to become experts in working with these protocols.
- The spread of diagnostic facilities and investigative processes into primary care will necessitate the training of primary care staff in these investigative processes, and a change in how existing diagnostic staff work. Currently diagnostic staff work in centralised departments, the future model will require greater mobility, and a greater ability to work in a decentralised clinical model.
- Improved communication infrastructure, including e-mail access to opinions and electronic test results, will require a programme of IT training and development to ensure all primary care professionals have the necessary skills and competencies to use the new systems effectively.
- There will be a number of enhanced roles, including the development of practitioners with special interests, who will have a combination of knowledge, experience and skills in working in primary care, together with expert knowledge in a narrower specialist field.

The new models of service will provide opportunities to professionally develop staff at all levels. Specific services planned for the network of community health care centres offer significant opportunities:

- **Outpatients**: Some out-patient activity which will shift from the acute sites to the community sites. There will be more nurse and allied health professional led services, (supported by medical staff) with the ability to make direct referrals to specialist hospital services and other agencies.

- **Diagnostics**: Technicians' roles will be developed to better support the delivery of the service and to improve job satisfaction. The PCTs will commission services from providers committed to pursuing the training of Advanced Practitioners in Radiography.
- **Minor Injuries Unit**: The PCTs are exploring the development of services led by appropriate non-medical professionals such as Emergency Care Practitioners and Allied Health Professionals.

In consequence, a number of care tasks currently undertaken by NHS organisations will be replaced by a role in educating and supporting patients in self-management of their health and illness. These roles have the potential to improve access to services and the information people receive about their health and health care services.

The identification of IT training requirements and the provision of the required training will be taken forward as part of the National Programme for IT.

13.6.2 Integrated Re-ablement Services

The main challenge for this service will be the combination of a wide range of tasks in single roles and the need to enhance case management skills. The specific issues for staff in this area will be:

- A need to develop staff with a wide range of assessment skills sufficient to manage both social and healthcare processes.
- Acclimatisation to working both in community and hospital settings, a challenge for teams of staff whether they come from community or hospital backgrounds.
- Development of case management skills to enable more vertical integration of processes and greater continuity in care planning. This approach inevitably means staff adapting to greater levels of responsibility and acquiring skills at managing ambiguity, particularly for ward based nurses who are used to having exposure to a limited part of the process in a clearly defined hospital setting.
- A focus on building cohesive, well-led, multidisciplinary teams with a move away from more hierarchical systems.

13.6.3 A Range of Specialist Teams combining Hospital and Community Expertise

The specialist teams will have to acclimatise to working across hospital and community settings with the main staffing considerations being:

- Systemisation of team activities; this will move the medical workforce away from a traditional individual approach and will require considerable care in addressing governance issues.
- Self management by the teams with the responsibility for delivery of services and achievement of targets, with incentives to deliver against targets, will demand a particular approach from management to enable staff to deliver within NHS pay structures.
- In common with the other teams in the new service, there will be a focus on building cohesive, well-led, multidisciplinary teams and this will require some significant changes in approach in some of the specialist areas.
- Adoption of case managers will also require the development of nurses and therapists in organisational and system skills to enable them to co-ordinate and orchestrate services as well as provide care.
- The teams will require sophisticated administration and management to allow them to manage effectively with a degree of autonomy, and this will require a change of traditional administrative and secretarial roles.

13.6.4 A Comprehensive Urgent Care Network

This new system will require a wider range of multi-skilling from the team although this will build on an existing multi-skilled approach from A&E staff and community practitioners. The main challenges will include the requirement to run a network of services in acute hospital and community settings and a wider degree of autonomy for nurses and other staff in community based services.

Implementation will require the development of a sufficient number of Emergency Care Practitioners in order to manage the Community Minor Injury Units and play a full role in the provision of the minor injury and accident and emergency service on the Southmead site.

13.6.5 An Emergency and Acute Assessment and Treatment Service

This service will require an integrated approach from the Accident and Emergency and Acute Assessment teams, coupled with the development of a team of specialist acute physicians who can manage the acute assessment of patients to a very high standard, ensuring patients benefit from speedy assessment, diagnosis and treatment plans early in their admission. North Bristol Trust will maximise the use of a range of roles, including the emergency care practitioner in the Minor Injuries Unit.

The main issues for staff in the new service will include:

- Integrated working between the Emergency Department and acute medical and surgical assessment teams with a blurring of existing professional boundaries.
- A change of approach to full-time emergency physicians rather than on-take duties of specialist physicians. This approach will present challenges for career planning to ensure that emergency physicians get the opportunity to practice specialist work at some stage in their career. There will also be challenges for specialists in some fields who wish to maintain emergency skills or in the case of endocrinologists for example who feel they need the acute component to their job plan.

Implementation will require:

- Development of a strong team of Emergency Physicians. NBT will work towards the creation of an integrated team of 8 to 10 Accident and Emergency Physicians and Consultants in Emergency Medicine. The Trust will seek to recognise and appoint Emergency Physicians in line with the Royal College of Physicians guidance and stated training requirements.
- Carefully managed change in the relationship between A&E physicians and Emergency Physicians in relation to the management of acutely sick patients.

13.6.6 A Strengthened Critical Care Team

This team will develop an outreach model of care and this will entail staff incorporating the education and development of other teams, into their job content. In addition to this the new acute hospital will have an increased number of critical care beds, which will require an increase in staff with specialist intensive care training.

Main issues for the team will include:

- Networking skills; the new service will need to work as part of a wider network of critical care provision.
- Flexible, highly trained workforce; the service will rely on a pool of staff with elements of multi-skilling to enable the service to be resilient to change and to be able to absorb peaks and flows in demand.
- Maintaining a larger staff team for the increased number of critical care beds.

13.6.7 A Flexible Inpatient Service

This service will integrate a number of existing teams and wards into a single flexible service, and this flexibility will provide a major challenge. Other issues will include:

- A requirement to broaden skills to be able to manage different specialties of patient to support flexibility.
- A loss of the current clear ward identity for units, with the challenge of generating team ethos and responsibility in a more generic model of care.

The core of the in-patient provision will be 32 bedded units, grouped into 96 (64) bedded clusters, which will operate as a single entity in terms of the care organisation. There will be a clearly recognised senior nurse in charge (modern matron), supported by an administrator. The totality of the service within the 96 bedded clusters will be within the senior nurse's portfolio of responsibility, and the staff will be deployed flexibly according to patient dependency.

The proportion of registered, graduate nurses is expected to significantly reduce, and their role will be to 'direct' and co-ordinate care across the patient pathway. They will be responsible for teaching, setting, and monitoring standards and liaising with community-based case managers to ensure service continuity for the patients.

At the present time due to the variation in design, and ward size across North Bristol Trust, the skill mix within the in-patient areas varies considerably. Overall the proportion of qualified staff is 60%; however in some areas the proportion of qualified staff can be as high as 70%. As stated, the new in-patient configuration will provide the opportunity for a different skill mix, which will move towards a 57% qualified and 43% non-professionally registered and assistant practitioners. NBT workforce plans anticipate the future requirement for 200 assistant practitioners to work within the in-patient areas.

Due to the nature of the patient dependency, which will be higher due to reduced lengths of stay, there will need to be a richer skill mix in order to provide high quality nursing care for very sick patients. This will mean that it is unlikely that Band 2 Chas will continue to be employed within the inpatient zone.

The planned inpatient design will facilitate a more efficient deployment of staff, it is therefore anticipated that the overall nurse staff per bed will fall from the current 1.18 per bed.

13.6.8 A Systematic Planned Surgical Service

This service will find itself in strong competition with the independent sector for contestable work, and will need to address issues such as:

- A need for strong customer focus.
- A requirement to concentrate on process improvements to improve the patient experience.
- A management challenge to incentivise staff to produce productivity improvements within the constraints of NHS pay systems.

As acute care becomes more sub-specialised, it becomes increasingly more challenging to cover emergency rotas to sustain the appropriate level of expertise across both acute sites. Sub-specialisation ensures that patients have access to the doctors who are most specialists in their conditions, but it also means that more doctors need to be available 24 hours a day.

The implementation of the European Working Time Directive and the introduction of Modernising Medical Careers will both have major implications for the service contribution of junior doctors in training. Since 2008, the maximum duty hours per week, which a junior doctor can work, is 48. In additional to this, the service contribution of doctors in training is anticipated to reduce significantly with the introduction of foundation programmes and run-through specialist training grades.

It will therefore be important for the health community to continue the current initiatives in developing new roles, which will support the medical role. In particular it is important to identify those tasks, which do not require to be undertaken by a doctor, in order to ensure appropriate use of specialist skills, and also to identify those areas of work, which with enhanced education and training, another practitioner could undertake. Examples of such practitioners include the anaesthetic practitioner and the physician's assistant. It will also be important to ensure that maximum opportunity is taken to enhance the contribution made by existing practitioners e.g. nurses, physiotherapist and operating department practitioners, who through advanced skill and competency development, are able to make an extended contribution to the work of the team.

13.6.9 Rapid Response Diagnostic Services

The new rapid-response diagnostic services will require:

- A clearer identification by staff with the main patient pathways and processes to which they contribute.
- Multi-skilling of staff to enable wider access to diagnostic testing. This wider access could include non-diagnostic department teams taking a greater role in conducting and interpreting tests.
- The rapid advancement in technology that will include electronic ordering and access to reports, and could stimulate centralised reporting to support more than one hospital, as well as supporting networks of community provision. This could lead to a combination of de-centralisation of staff involved in taking tests but a centralisation of staff to report tests.

13.7 OTHER ISSUES AFFECTING THE WORKFORCE

Healthcare will be organised along care pathways. The new hospital will have re-engineered processes so that all patient pathways are efficient from start to finish. The programmes of care will be developed along the patient experience. So the patient journey includes prevention, community care, community hospital, as well as acute care. Current programmes include simple surgery, stroke, rehabilitation, respiratory, urgent & emergency care, and community children's services.

Design of hard and soft FM services will lead to new roles being developed, and specialist zonal teams, which support infection control and the automation of certain duties, could affect staffing levels.

Wards will be designed to allow therapy services to come to the patient, rather than the patient going to the therapist.

There will be advances in technology, both supporting staff (e.g. rota development) and also in how patients are recorded and monitored and supported both throughout their stay, but also in terms of communication, expectations and understanding of their treatment regimes. Technology advancement will affect how administrative processes are conducted including electronic reporting of tests/voice recognition techniques/choose and book.

13.7.1 Midwifery Issues

Midwifery service will continue to be provided in the retained estate.

An increase in the birth rate up to 2010 and the changing population (increasing initially in 16 – 24 year age band before it later starts to reduce) means there needs to be a substantial increase in the number of midwives. Nationally, there is commitment to increase midwives by 4,000 by 2012.

However, training additional cohorts of midwives will take time, and the development of the maternity support worker, and the provision of administrative and clerical support to release midwives time may be the way forward.

Stand alone birth centres e.g. that to be developed at Cossham Hospital, are to be developed, with midwife led services. Further the Darzi Review recommends a 10% increase in home births.

In developing training for new skills and roles for the new hospital, the importance of developments in midwifery must not be underestimated.

13.7.2 NBT and Travel – Time

Merging two sites into one should have a beneficial result by reducing time spent travelling between sites. However NBT will be providing increased and enhanced services at a range of community locations in the future. This will need to be managed in such a way as to reduce staff time spent travelling.

13.7.3 Shaping the Vision- Working in NBT

There are many factors in the new hospital which will influence the level of staffing needed, and the characteristics of the new workforce.

The re-location of the clinical activity currently at Frenchay Hospital to Southmead Hospital and the combining of departments will bring economies of scale as departments merge, providing the potential to change the skill mix and to update practices.

The relocation may also impact on recruitment and retention of some staff groups. Some staff only want to work locally, whilst others are more prepared to travel. It will be essential that the new hospital is not seen as importing the 'Southmead way' or the 'Frenchay way' but through key process re-engineering, delivers a new and vibrant service based around the needs of the patient.

Key to this will be the extension of working hours for some departments and staff groups, to fit in with patient need. While 24-hour services are maintained in the hospital, for many departments this is simply not necessary or desirable. However a move to 7 day working and extension of working hours during weekdays may benefit. This will have undoubted effect on staffing arrangements. In addition, key areas may need to review on-call provisions.

Agenda for change is key in delivering clear objectives and development plans for individuals, encouraging team working, empowering employees to determine their own methods of working, increasing average knowledge and skills levels. The flexibility in the grading arrangements will be key as the new hospital will require the development of new roles and ways of working.

In developing a workforce plan for the new hospital, we have to assume staff will be fit for purpose and flexible, and that staff will want to work for NBT. This will need to be addressed by the following:

- Good HR Strategy and practice.
- Flexible working – duties, roles, hours. Compliance with working times directive.
- Work/Life Balance not only available to those with families, but to all the staff. 'Model' employer practice through implementation of IWL principles will lead to improved recruitment and retention and reduction of vacancy and turnover rates, flexible working, safe environments in which to work and culture of lifelong learning.
- That for changing roles there will be an investment in training from the start, and assessment of competences.
- That every level of staff will be trained to the full range of their abilities, and will receive a package which includes the opportunity to increase quality care, increase their development options, and increase support/training required.

It is also anticipated that the attraction of the new hospital will be an enticement for staff to want to work in NBT. The Trust will need to ensure through the delivery of the HR Strategy that staff will want to remain and develop within the Trust.

13.7.4 Staff Group Assumptions

Workforce changes will be within the bounds of clinical safety and professional regulation.

Trust management structures will need to change, as will the constituency of the existing clinical directorates, to keep pace with the new adjacencies and methods of working.

There is a need for different and current staff groups to work on their existing skill mix:

- To increase productivity.
- To align to programmes of care and of service users (age, ethnicity, culture disease prevalence).

- To ensure the impact of part time work on work patterns is utilised to best support of patient care.

13.7.5 Administrative Staff

The key to ensuring the new hospital runs smoothly will be highly trained 'front of house staff' to welcome patients and public, and ensure that their journey through the hospital, whether for treatment or visiting, is a smooth one.

Introduction of NCRS will mean a much reduced medical records staffing is needed, although IT support staff will be needed to ensure the key technologies within the hospital work properly.

New and improved booking, pre-admission and discharge arrangements will lead to a reduction in the traditional role of medical secretaries, requiring a more administrative role assisting medical staff.

There will be an increase in administrative support to wards. Ward administrators should alleviate some of the administrative duties from ward sisters, and there will need to be significant receptionist cover. This could well be in extended hours, with 6 am – 10 pm cover.

13.7.6 Soft Facilities Management Staff

There will be key savings due to the merger of 2 sites, with less facilities management required due to a reduced estate.

Before the new hospital is built it is likely that laundry services will no longer be provided in house. Issues surrounding the uniform policy for the new hospital may well dictate the future of the sewing and linen rooms.

Whilst management of car parking and security remain the responsibility of the Trust, these are likely to remain with external companies outwith the PFI arrangements.

Delivery of FM stocks around the new site will also be less labour intensive, as automated vehicle movements are introduced.

There will be less manual movement of patients. For less complex surgery, patients will self present to theatre. The planning of adjacencies within the hospital will lead to less overall patient movement.

An improved role for housekeepers within the ward environment will be developed. Fully integrated into the clinical ward team, these staff will have good organisational skills and duties could include catering as well as domestic role, linen, stores/stock control, bed making etc. The predominance of single rooms, together with en-suite facilities, while helping reduce infections, will be a more complex cleaning and facilities management logistics.
In other areas of the site, (not in-patients) there will need to be a greater integration of domestic staff into the main clinical teams, which will include the need for staff to multi skill, and undertake a wider range of duties.

Catering arrangements will change, as in house catering will only be required for patients and staff. The provision of external catering supplies to provide concourse catering facilities for visitors removes this additional requirement on the Trust.

Garden arrangements on the Southmead site will be part of the PFI. However with retained site elsewhere, there should still be need for gardens staff in the Trust.

13.7.7 Estates Staff

Whilst the PFI provider will deliver Hard FM services to the PFI build, there will still be Hard FM (Estates) services to retained Southmead estate.

It is unlikely that there will be any TUPE transfers, given the age profile of the staff group (nearly half are over aged 56); however any new staff appointed must be properly contracted to the Trust in order to avoid possible TUPE claims arising in future.

The key issues for this group will be how do we retain this skill set/experience for the future and in different job roles, and how we manage arrangements (plan, train and mobilise for the new hospital and FM service model) until services transfer over to the new site.

13.7.8 Nursing Staff

Whilst the overall reduction in the beds should lead to a reduction in qualified nurses in in-patient wards (as an example, wards from 60 –19 will reduce ward leader roles), other areas will compensate for this reduction – such as the increase in critical care beds. By the time of the move to the new hospital, it is felt that nursing shifts could have moved to a three shift system.

Establishments on the inpatients wards will be based on the establishment tool "Patient Care Portfolio", which defines actual activity and acuity of patients. In addition it is necessary to review the calculations used for factoring sick, study and annual leave into establishments, as leave for many long serving nurses (and HCAs) has increased by 20% under Agenda for Change. It is also expected that the RCN recommendation of 2007, advising 65:35 ration for trained to untrained staff will be incorporated within the establishment. Additionally, if theatres are working extended hours, traditional 'down times' when workload is less heavy may reduce opportunity for less staff at weekends.

Within Critical care, national staffing recommendations endorse a patient: nurse ration of 1:1 in intensive care, and 1:2 in high dependency units. Whilst this area may benefit from utilising assistant practitioners, there will also be a need for more nurse specialists.

Theatre staffing will need to be reviewed. Extended hours for the theatres will mean an increase in staff, and the potential for patents to be admitted directly to, and discharged from the theatre will necessitate a skill review for the staff.

13.7.9 Pharmacy Staff

By 2013 pharmacy technicians will be registered professionals. This enables skill mix to be reviewed. Pharmacy services will be provided over extended hours and weekends. This potentially increases the number of pharmacists and pharmacy technicians required.

New roles are likely to be required in terms of consultant pharmacists, pharmacy prescribers, and clinical technicians.

The Regional Quality Control will remain within NBT, but in future could be led by consultant pharmacist grade.

13.7.10 Physiotherapists

The Physiotherapy service will need to move to extended hours including seven day working. It already provides emergency services to acute respiratory patients, trauma and orthopaedics and prioritised medical patients, but this group will be extended, with the increasing acuity of all in-patients. There will be a decrease in the number of rehabilitation beds, with potential transfer of staff with a rehabilitation emphasis to the community services.

With more critically ill and complex patients, there will be a need to maintain specialist skills, and develop advanced practitioners, and extended scope practitioners.

From a support worker point of view, it is likely that more rehabilitation assistants will be developed, including assistant practitioner roles to supervise exercise programmes, releasing qualified staff. The target at the moment is to move to a 70:30 split qualified: unqualified.

13.7.11 Speech and Language Therapists

It is assumed that there will be a 7 day service provision and extended working day. This will require an increase in mixed grade SLTs.

There is a specific assumption for SLT that there will be dedicated specialist acute SLT services provided in the new Southmead Hospital which are not currently developed, but are provided in other Trusts (e.g. in critical care with tracheotomy patients, in Burns unit), and the provision of specialist investigative services in outpatients setting, and that the regional neurosciences unit will expand.

In relation to the split between trained and untrained staff, the SLT service will require 1.0 wte SLT assistant to support the acute inpatient work.

New roles to areas which do not currently have a dedicated service and SLT staff (with the exception of the Dysphagia Clinics one-stop service, which would be a service expansion), include posts in neuro rehabilitation, extended role video laryngeal examination clinics and Macmillan SLT, including the provision of pre-operative services into radiotherapy clinics and UBHT as well as outreach services into palliative care.

13.7.12 Dietetics

Dietetics is a developing area, in particular in relation to the management and delivery of obesity initiatives. The profession could look to greater support from assistant practitioners.

13.7.13 Occupational Therapists

Whilst much of this service may become community based, within the hospital there is likely to be a need to move towards a 7-day assessment service, needed to support discharge.

13.7.14 Radiographers

An increase in imaging in the community is likely to be staffed by provided by NBT staff, rather than staff transferring to the community service. There is currently a shortage of qualified staff to deliver this service, however increases in training commissions are in place to address this. It is expected that imaging activity will increase every year.

Assistant practitioner role development will improve capacity by allowing more straightforward diagnostics to be undertaken by an assistant and releasing more senior radiographers to undertake more complex diagnostics.

Patient Archive and Communications System (PACS) will mean 24 hour availability of images and same day interpretation of images. Emergency interpretation of images at home will also be available. An increase in interventional radiology is expected.

There will be an increased level of bedside ultrasound investigations due to improvements in equipment specification. Complex ultrasound investigations e.g. echocardiograms etc. will still need to be performed in the main imaging departments.

13.7.15 Pathology Staffing

Staffing for pathology will be detailed in a separate workforce plan, as it is outside the PFI. Plans to bring together the dispersed pathology services in new premises on the Southmead Hospital site will have been implemented before the PFI is completed.

Within the new hospital, there will be scope to look at the role of phlebotomists, with a view to extending their role.

13.7.16 Technicians and Other Qualified Professionals

The transfer of re-ablement services to the community will have an effect on this staff group, with rehabilitation engineers likely to move to the community.

Discussions are currently advanced in terms of whether the Trust will provide CSSD services in house or not, if this service is provided by an alternative provider, there will be a reduction in the technical staff employed by NBT.

Overall, the advancements in medical technology supporting diagnostic and treatment regimes are likely to stimulate an increase in technicians to maintain complex equipment. Additionally, as enhanced community services increase the requirement for medical equipment, this will impact on the demand for technicians.

13.7.17 Medical Staff

A number of issues will affect the numbers and skill mix of medical staff. The full enactment of the European Working Time Directive will affect junior doctor's hours, and extend the use of shift patterns; there will be a need for an increase in middle level grade doctors to cover the gap between trainees on rotas and consultants.

While consultants will do complex case follow up following discharge, much other follow up will be given to specialist AHP or nursing staff. Similar arrangements for secondary care OPD appointments will be put in place.

13.7.18 Recruitment, Retention and Redeployment

We need to provide a workforce of well trained health professionals with the knowledge and skills to deliver modern effective services. This means continuously educating staff and working in ways, which meet accreditation standards and legislative requirements. It also means being able to attract new much needed staff into the NHS and retaining our existing staff by improving working lives. We are working on our work/life balance policies, ensuring that both staff and managers recognise the benefits these can bring.

Recruitment is a key challenge facing the NHS. Strategies to attract suitable people to enter or return to NHS employment are on the agenda at local and national levels, with a sustained focus on ensuring that the NHS can continue to meet patient needs. We need to ensure NBT is best placed to compete within the recruitment market place and ensure a continuing pool of quality candidates for employment at all levels, by developing recruitment capability while reducing overall recruitment costs.

Recruiting and retaining staff in many occupations and professions has become increasingly difficult. This will continue to present a serious and growing challenge.

There are a number of drivers; the demographics of the local workforce show that whilst the population of the area will continue to rise, and there is an expected increase in the birth rate, there are fewer school leavers coming through the system as the 15 – 24 year old group continues to fall, by about 3% in the next 10 years.

The NHS will need to work hard to secure an adequate share of this diminishing resource. We will need to identify and use creative means to recruit and retain people in the workforce in order to meet the demands of service growth.

The current throughput from the school, college and university route is insufficient to directly replace the loss from our workforce through retirement and natural wastage. Many school leavers, graduates and the population in general have a poor perception of the NHS as an employer or as an option for a career, and anecdotally this is particularly true for the ethnic minority population. This means we must examine the whole labour market and not just our traditional sources. There are many people who could make a considerable contribution to our services, but who have never felt that the NHS was open to them.

The Trust has been developing its work experience programmes, building good working relationships with Connexions and local schools and colleges. The aim is to ensure that students view the NHS as an attractive career option and recognize the wide range of career opportunities available to them. In particular, we will be aiming to provide good quality placements for students undertaking the new Diploma in Health and Social Care. Links with local colleges aim to also attract mature students who may be re-entering the labour market.

There is significant acknowledgement that we must have a workforce that reflects the diversity of those living in the NBT area. In an increasingly complex society, language and cultural needs will influence how we provide our services. To meet this challenge, we will need to take action to ensure we are seen as an employer that embraces those from a wide range of backgrounds and therefore improve inclusivity, build the capacity to innovate and develop the confidence to embrace change.

In addition, people with disabilities or those returning to work following long-term illness are a valuable resource. We will seek opportunities to work closely with Jobcentreplus, taking part in new initiatives, to offer employment opportunities to these groups.

NBT has an aging workforce, mirroring society locally with a high percentage of staff already aged 50 or above. This presents the challenge not only of maintaining the numbers of staff required but the level of skills and experience. Recent changes in the NHS Pension Scheme may encourage staff to remain in employment longer perhaps taking a 'step down'. Opportunities should be taken to utilise these staff to pass on their skills. In addition to recruitment, proactive succession planning and staff development will be necessary to minimise the impact on patient care.

NBT will endeavour to maximize the use of ESR to supply quality information to the SHA and local data warehouse. This will facilitate efficient commissioning of training provision through the Higher Education Institutes (HEIs) and minimizing the time lag which often occurs before student numbers catch up with national gaps in available staffing.

In this employment market, recruiters are engaging in more diverse means to attract potential applicants, moving away from the job advertisements in national printed press, to more varied, targeted use of multi-media advertising. This is particularly true of companies seeking to engage the 'passive' job seekers – those who are not actively looking for a career change but who may consider attractive opportunities. Potential recruits are themselves more sophisticated in their approach, the rise of Internet usage bringing with it expectations of on-line job search and application. NBT has started to meet this challenge through using online recruitment with NHS Jobs.

In NBT the areas most difficult to recruit include:

- Theatre Nurses
- Neonatal Nurses / and Midwives in specialty of Neonates
- Some Specialist Nursing Posts i.e. Anticoagulant
- Psychologists
- Laboratory Staff (BMS Grade)
- Speech and Language Therapists

A new and strong brand will need to be developed, underpinned by an appropriate communication strategy that allows NBT to celebrate research, development and service achievements. Jointly these will promote the Trust as a first class healthcare organization, delivering first class care and thereby attracting the highest calibre of applicants.

An innovative and effective reward and recognition strategy will support the brand, improving recruitment and retention.

In terms of recruitment to support posts, NBT functions within a difficult labour market, with competition from the retail, business and healthcare sectors. Again, creative recruitment and retention activities will be required to attract people into the NHS. Promotion of our terms, conditions and policies, plus the development and career opportunities available should assist this.

The cost of travel to work and childcare can also influence applicants' decisions regarding employment opportunities. Whilst the planned increase in housing and population in the local area will have an impact on service demand, it will also provide a wider local labour market and this opportunity should be maximized.

Recruitment for substantive and bank staff through NBT Xtra needs to be inter-connected in order to ensure good applicants are not lost. This could also ensure that successful applicants for substantive posts have already had induction training and have some experience of working in NBT.

Efforts to collect and analyse data regarding the reasons staff leave NBT should be re-energised and the issues addressed, particularly in areas of high turnover. This information will also assist the development of the reward and recognition strategy.

The creation of a new workforce for the new hospital is based upon a strategy of development of staff skills and migration of staff into new roles and responsibilities. This strategy will mean that workforce numbers and skills are managed incrementally to arrive at the establishments in 2013/14 thus avoiding large scale redundancies. In practical terms this strategy will include holding vacancies and strategic management of temporary staff to cover the day one synergy savings.

The new hospital facilities and new ways of working, in roles that cut across professional and management boundaries will provide an opportunity to consider redeployment more laterally rather than simply in terms of existing working functions and the redeployment policy and its principles should support and reflect this.

At a time to be determined, it will be necessary to reflect the timescale of the opening of the new hospital. All recruitment, from advertisement through to contract, will be set in the context of these plans. Some posts must be fixed term, some with very explicit mobility clauses, and all geared to the period of change. All posts will expect flexibility in the workforce, and explicitly exclude the need for any staff (Hard FM) to transfer under TUPE to the PFI provider.

13.8 EDUCATION AND TRAINING

NBT fully recognises the significance of proper investment in the education, training and development of staff in support of effective workforce planning and development. The clear and ongoing linkage between clinical service planning, workforce planning and the focus of education, training and development investment will help to ensure that the right staff with the right skills and competencies are available at the right time to meet clinical and service needs into the future.

NBT is moving into an unprecedented period of strategic planning, clinical and service change. It is recognised that this will impact on traditional ways of working within the NHS and will result in the need to introduce new and enhanced roles for many staff.

It is important that the implications for staff in strategy implementation and the potential for clinical and service change are acknowledged and are factored into the Workforce Strategy and Plan in order that necessary investment in education, training and development is dovetailed into the planning and implementation phases.

The Trust adopts a multi-professional approach to the education and training of staff, where possible, recognising the major benefits to be gained from interaction, challenge, innovation and learning across all clinical and support service fraternities.

The Staff Development Department also has a key role leading and monitoring progress in the important development of the Knowledge Skills Framework (KSF) of Agenda for Change.

Robust, modern, patient focused and quality conscious individual Competency Profiles are being developed and implemented for all roles. These will be supported by having effective Personal Development Planning and Review arrangements in place, which will deliver improved performance and service through the application of enhanced staff skills and competence.

The Trust's annual Learning Plan and KSF Profiles must remain fluid and responsive in planning for and meeting the education, training and development needs of staff in the context of the changing models of care, new roles and enhanced skills which will be required of clinical.

13.8.1 Relationships with Education Providers

To raise awareness of NHS careers among graduates already living in Bristol we will:

- Work with our University partners to further develop "conversion" routes, e.g. science graduates into biomedical disciplines.
- Develop more flexible entry-level career pathways into disciplines such as diagnostics.
- Work closely with our Royal College partners and with the professional regulatory bodies to establish new career pathways and roles e.g. advanced nurse and AHP practitioners, assistant medical practitioners; anaesthetic practitioners.
- Promote organisation development among Admin and Clerical and the roles currently labelled "secretarial", to make these attractive to graduates.

13.8.2 Particular Training Requirements for the New Hospital

The service delivered by the new hospital will take account of a strengthened primary care system, with strong case management. This will have particular impact for staff more usually used to providing care in a defined care setting.

There are a number of principles underpinning the model of care that will have a particular impact on learning and development of staff

- **To improve the quality, safety and outcomes of patient care**
  In building on previous work and successes in keeping patients safe, and ensuring all new staff both prior to and subsequent to the new hospital opening have the best possible experience.

  Plans will continue to reflect national strategies as set in national service frameworks, NICE guidance and other key national policy initiatives

  We will continue to provide education that meets the statutory training and accreditation requirements for all NHS staff

- **The emphasis will be on service modernisation, redesign and new ways of working, rather than physical location to ensure care to be delivered closer to the patient's home where appropriate and practicable**
  A wider range of staff will require skills in assessment and ability to make diagnoses in potentially non-traditional environments.

The training implication is that staff understand their contribution to the care pathway and can be flexible to ensure patients have wider access to diagnostic testing, with the ability to interpret results to facilitate appropriate, timely treatment, within the appropriate and correct setting. Staff also need to maximise the benefits of collaboration between health, social care, independent sector and voluntary sector partners.

- **To promote self-care and the prevention of illness and disability**
  Health promotion will form an integral part of education programmes of all staff to ensure that opportunities for patient autonomy identified. Staff will need the ability to assist patients to take responsibility for managing their own health and treatment as appropriate.

- **Emergency and planned care pathways will be separated as far as possible**
  Staff will require a wider range of skills to meet the demand for autonomous decision making to achieve appropriate patient flow along the care pathways. In addition as part of the planned surgical service staff will need support and training in relation to process improvements, a strong customer focus and productivity.

- **Creating sufficient capacity to meet waiting times and waiting list targets**
  Crucial to creating capacity is the requirement for organisation and leadership development. With an emphasis on service modernisation, redesign and new ways of working, rather than physical location

13.8.3 Leadership Planning

A comprehensive educational plan will support the organisation development and leadership development strategies and enable staff to achieve fitness for purpose and work within new structures. These plans will ensure that educational and training activity is clearly aligned to trust objectives. The plan will be tailored to all levels of staff within the organisation.

CPD allocation now available with new work with Bristol Business School to support and develop our leadership and management development programme arising form our leadership and management strategy currently in development.

13.8.4 Partnerships with External Providers

NBT is involved with a wide range of partners through the 'Bristol Skills Academy'.

At NBT all education and training activity and annual planning is undertaken by an integrated team representing post graduate and undergraduate education, staff development and life long learning. Work stream plans dovetail wherever possible to ensure that inter-professional activity can take place and shared responsibility for quality is feasible.

Widening participation in learning continues to be a high priority to enable the best use of all the talents and potential of the workforce. NBT is primary organisation for SHA in Joint Investment Framework (JIF) for Learning and Skills Council (LSC) funding and Train to Gain Skills Pledge signed by CE and in place for NBT. This is supported in NBT by the Health Care Support Worker Strategy and policy in place and includes all HCSWs and Assistant Practitioner development.

Close working with the Learning and Skills Council (LSC) and collaborative partnership with Bristol and surrounding schools in recruitment of potential students on 14-19 diplomas and into new apprenticeships in health will be a key activity and part of the educational provision, with funding streams from the LSC to support the learning programmes.

The Strategic Service Improvement framework will support education aligned to service provision and local priorities.

Medical trainees, through Bristol University, are allocated by the Strategic Health Authority and local Deanery. Specialty Training Programme Directors and Regional Advisors formulate rotations and place trainees appropriately. The Trust works closely with the Deanery and the SHA to support this programme.

Postgraduate Medical Education within NBT under a nominated Tutor works in close partnership with the Deanery to assist with planning of trainee placements.

We provide significant placements for undergraduate nurses and allied health professionals, and are reviewing with the university the curricula and the capacity demands to ensure appropriate supply of registered health care professional for new service provision in the new hospital.

We need to continue to work closely with the universities to support undergraduate teaching and to ensure they are successfully accommodated and taught within the Trust taking into account all available resources and the needs of other users.

It will be important for the Trust to work with UWE to enhance the attractiveness of the nursing profession, and, in particular of remaining in the Bristol health economy after graduation. Application to place ratios in the therapies are more buoyant but here too we will work with the University to ensure graduate recruitment to local health care.

Bristol North Academy has developed a strong working relationship with the University of Bristol Medical School. Monthly Academy Management Group meetings are held at the Centre for Medical Education, which are attended by the Academy Dean. Quarterly meetings are held by the Unit Leads and these are attended by the Unit Co-ordinator(s), Undergraduate Medical Education Manager and respective administrators.

Universities are still being encouraged to recruit additional students (including more substantial numbers of mature and HCA NVQ route entrants). Filling student places is often difficult however and attrition has also been a problem both nationally and in our local University of the West of England.

Regular reports on graduate recruitment are available and will inform future practice.

13.8.5 Succession Planning

NBT has been active in encouraging HCA progression into nursing roles and is supporting cohorts of assistant nursing practitioners across AGW.

Continuing to sustain and increase these developments and to work with education commissioners to maintain an appropriate balance between conventional and other entrants to the professions.

Key to those plans will be financial support for the acquisition of higher-level skills.

Local Universities are already providing relevant modules and programmes but it will be important to relate these to role developments and to care pathways to inform educational commissioning in a timely fashion.

It is anticipated that many (but not all) of the individuals who undertake advanced roles will be Registered Nurses or Allied Health Professionals (AHPs), and this will provide another career development opportunity for staff whose previous choices were more limited. It is also likely that some roles will be open to staff whose careers will have begun in a range of different professions. Thus Basic nursing and therapy roles may become increasingly interchangeable within and between service areas e.g. orthopaedics, stroke care, care of older people.

In contrast, as acute hospitals move toward greater sub-specialisation, this will have the impact of creating enhanced and more specialist roles for nurses and AHPs. This will have implications for their training, education, management, registration and supervision arrangements.

Workforce risk assessment undertaken and areas of concern identified with associated action plans from directorates.

Skills escalators are in place for progression of support workers and advanced practitioners and enabling the widening participation in learning as set out in the Leitch report (2007).

13.8.6 New Roles

At NBT all education and training activity and annual planning is undertaken by an integrated team representing post graduate and undergraduate education, staff development and life long learning. Work-stream plans dovetail wherever possible to ensure that inter-professional activity can take place and shared responsibility for quality is feasible.

As noted above NBT has been active in encouraging HCA progression into nursing roles and is currently supporting the largest cohort of assistant nursing practitioners across AGW. These developments have been fostered through Academy partnership working with UWE. It will be important to sustain and increase these developments and to work with education commissioners to maintain an appropriate balance between conventional and other entrants to the professions.

There is experience of such new roles in the north of Bristol, with Consultant Nurse and AHP Practitioners, Advanced and Specialist Nurse Practitioners, Emergency Care Practitioners, Operating Department Practitioners and Anaesthetic Practitioners but these are numerically small and plans will be developed for significant growth in these and other 'new' roles.

13.9 Role Redesign

North Bristol Trust will seek to develop its workforce in line with the career framework for the NHS, endeavouring to promote flexible career pathways for staff, and taking full advantage of the potential to develop new roles to enhance the provision of modern high quality patient care.

Example of the types of roles being developed using the NHS Career Framework within the health community are given below:

1	**Initial Entry Level jobs** Generic Therapy Helpers Receptionist Catering Assistant
2	**Support Workers** Housekeeper – inpatients Healthcare Technician
3	**Senior Healthcare Assistants/Technicians** Community Outpatient Clinic Support Care Support – Inpatients
4	**Assistant Practitioners/Associate Practitioners** Care Delivery – Inpatients Associate Practitioner in Radiography
5	**Practitioners** Radiographer Operating Department Practitioner Staff Nurses
6	**Senior Practitioners/Specialist Practitioners** Practitioner with special interest (community) Anaesthetic Assistant Physician Assistant Senior Operating Department Practitioner District Nurse
7	**Advanced Practitioners** Advanced Radiography Practitioner PwSI in Outpatients Extended Scope Practitioner Emergency Care Practitioner Advanced Primary Nurses Prescribing Pharmacist
8	**Consultant Practitioners** AHP Consultant Nurse Consultant
9	**More Senior Staff** Consultant Physician Senior Manager Clinical Director

The workforce is constantly changing and indeed has done so for many years, by modifying and extending traditional roles, particularly in the case of clinical, staff as individuals improve their skills either as part of their own career development or as a response to service change or patient need.

Historically, such an approach has been sufficient to ensure that the service is fit for purpose and responsive to the user. Recently however, the changes that have taken place in the provision of healthcare and those that are on the horizon have signalled a step change that this incremental approach cannot sustain. A more radical transformation of the workforce and application of emerging roles need to be considered. Workforce roles which:

- Transcend the professional boundaries that currently define roles in medicine, nursing and the Allied Health Professions.
- Challenge the concept of 'professionally registered' staff as opposed to those not currently covered by a professional body or are not registered as both play a key role in the delivery of healthcare.
- Attract new groups of workers from the labour market to careers in health and social care as this sector competes with others to recruit sufficient young people to meet its demand.
- Do not recognise the boundaries between health and social care or primary and secondary care as patients move seamlessly along integrated patient pathways.
- Attract mature entrants as the supply of school leavers relative to the age profile of the rest of the workforce diminishes.
- Based on competencies and not on professional boundaries.

Initiatives within the North Bristol Trust to implement new roles and skill mix changes include the appointment of 8 trainee Assistant Practitioners in April 2005 to work in stroke rehabilitation, MAU and preoperative assessment areas amongst others. As a result of this initiative, nurses, doctors and therapists will be freed up to undertake more complex roles, and savings of £4,000 will be generated by each Assistant Practitioner within 21 months of their qualification. A second cohort of 33 trainee assistant practitioners across BNSSG was recruited.

The implementation of Extended and Supplementary Prescribing has major implications for the development of nursing, pharmacy and dietetic roles, and it will be important that these opportunities are fully exploited as the new model of care is taken forward.

Role redesign is changing traditional and long-standing barriers to change such as professional boundaries, team structures and hierarchies, existing care processes and established divides between organisations.

We will be continuing to count the numbers of nurses, doctors, and other professionals for some years to come but what these professional will be doing and how they might be constituted is changing. We recognise that tasks traditionally carried out by one group of staff could better or just as well be carried out by another.

There are a variety of reasons for this future direction:

- The implementation of Managing Medical Careers – which will have an impact on clinical activity because of the increased educational and clinical supervision of the new training.
- Team approaches – new ways of working in multi-disciplinary teams.
- Evidence-based practice – the right person delivering the right care.
- Support the connection between new ways of working and new ways of providing services.
- Provide stimulus and encouragement to frontline innovation and delivery of new models of working.
- Address directly the balance between providing a service that is heavily dependent on highly trained professionals, and providing accessible, affordable, sustainable services.

Non-registered support staff are extending their skills and competencies to take on more wide clinical environment with registered staff expanding the breadth of their roles or taking on advanced areas of practice.

In NBT the requirements of the new hospital leads to the development of an approach to workforce redesign which encompass all staff groups and will be linked to generic career pathways to enable staff to progress through their career, developing breadth of knowledge and expert skills through competency frameworks underpinned by training and education.

NBT has already started implementing the introduction of new roles to staffing requirements, but other changes are also on the horizon. Examples of areas where roles are changing and developing or planned include:

- Pre-assessment screening services are in place and developing.
- Hospital emergency care (including hospital at night) with night practitioners being developed.
- Endoscopy practitioners are in place and likely to increase.
- Extended scope physiotherapists, plus other advanced and extended role practitioners will continue to increase.
- Reporting radiographers have been established.
- Emergency care practitioners.
- Generic therapy assistants.
- Increase in Consultant Nurses, AHPs, and Pharmacists.
- Anaesthetic Care Practitioners are being assessed.
- Housekeeper roles to support wards.
- Receptionist roles as key patient interface workers.

Pay Modernisation is providing the vehicle for many of the changes, in particular the Knowledge and Skills Framework (KSF) as part of Agenda for Change. We anticipate that the KSF will provide a framework on which to develop the skills and competencies required for new roles and posts, and this will be linked with the Personal Development Planning process.

Developments around new roles will be appropriately supported by sound theoretical education and training as well as the achievement of practical competencies. There could also be scope to improve education links with practice through the development of Lecturer Practitioner roles.

New and developing roles need to be based on patient /client need and integrated into new service models. We also need to develop mechanisms for measuring their impact to ensure they add value to the service. This is a challenge in many areas due to the difficulty in identifying the parameters to measure.

13.10 ACTION PLAN, IMPLEMENTATION AND MONITORING

This Workforce Plan has highlighted the need to address a range of issues to secure the workforce needed to deliver the new hospital. The Trust has maintained full staff consultation and engagement with the unions to date and plans to continue this throughout the change programme.

The Terms of Reference for the Southmead Workforce Redevelopment Steering Group are set out in Appendix 13.ii. The following areas will be overseen by that group during the move towards the new staffing arrangements:

13.10.1 Communication and Employee Engagement

Communication is the catalyst that transforms ideas into action.

It will be essential to ensure that all aspects of this workforce plan are broken into digestible, memorable, pieces which will become embedded into the mindset of every person who works in the Trust or in associated partner organisations.

As the project progresses and particular groups are directly affected by particular changes, there will be planned systematic communication in advance, to ensure proper planning.

Both of the above will rely on a combination of good central co-ordination between the Project Team and the Workforce Group and communications team, and ownership of the need to build understanding taken by line managers.

Employee engagement includes Trade Unions and Professional Bodies contribution to the work of the New Hospital Workforce Group and to the clinical design, clinical workforce design and facilities redevelopment groups. At service unit level, staff side representatives will be assisting managers with employee engagement during the development and implementation of the workforce plan.

13.10.2 Management

The trends and themes identified in this plan will impact upon every team in our workforce, and effective delivery will rely upon sound operational leadership at every level.

We will develop and implement a Management Development strategy to cover:

- Recruitment against a high specification.
- Systematic development of Leadership Qualities.
- Enhanced training via the North Bristol Academy in partnership with professional external providers and universities as appropriate.
- Networking with (non-competitor) private sector employers.
- Mentoring.
- Pursuit of global best practice.

13.10.3 Recruitment

At a time to be determined, it will be necessary to reflect the close proximity of the opening of the new hospital. All recruitment, from advertisement through to contract, will be set in the context of these plans. Some posts must be fixed term, some with very explicit mobility clauses, and all geared to the period of change. All posts will expect flexibility in the workforce.

The prospect of working in the most modern hospital in Britain will form the core of our advertising materials.

We will develop plans to initiate recruitment to the workforce profile developed in the near future.

13.10.4 Management of Change

The Trust has significant experience of managing change, through both internal transfer, and also the transfer of staff both to and from NHS (e.g. through the Bristol Health Services Plan) and other public and private external organisations. We are committed to ensuring that the organisational change process is eased as far as possible for the staff, by the fullest communication and consultation arrangements possible. Given NBT's substantial experience of service transfers, and its significant success in maintaining and retaining staff morale and enthusiasm during and after such transfers, the Trust is confident that these staff processes will be efficiently and effectively executed with accurate and timely staff communication remaining paramount.

In managing any organisational change, the Trust has regard to the following over-riding principles:

- Introduction of organisational change is subject to the early involvement of staff and their representatives, and continuing full and open communication with staff throughout the process.
- We will seek to maximise the opportunities for existing staff to undertake development in preparation for new roles and ways of working within the new arrangements.
- The Trust will also seek to ensure that during the interim period, all changes are implemented with fairness, sensitivity and consistency. In managing organisational change managers will need to give consideration to:

    - The anxiety of staff and the need to retain staff commitment, continuity and stability.
    - The availability of support from Staff Counsellors, Occupational Health and Trade Unions.
    - The requirement to achieve change effectively and with the minimum disruption to services.
    - The need to comply with employment legislation and equality and diversity principles.

Managing the transition will require clear leadership of change, shared values and direction from the beginning.

With considerable change management experience, we will ensure the smooth transition and integration of teams to retain a positive staff experience. Supporting the staff during the change process will be a priority for NBT, and we will continue to ensure that staff are fully engaged and involved in ongoing developments and improvements to the service.

As part of the management of change the Trust has ensured that the staff side are involved in the development of the scheme and have been part of the key decisions made. This involvement has included the following:

- Membership of the original Project Board that signed off the Outline Business Case including staff projections;
- Attendance at the Trust Board and involvement in the decisions to approve the business cases and select the preferred scheme;
- Membership of the workforce sub-group (in the form of the chair of the Joint Union Committee) that has scrutinised the staff proposals.
- Membership of a range of the project sub-groups by members of the staff side.

The issues around staff numbers, reductions in the workforce at Southmead, relocation of services with associated workforce to locations around Bristol and South Gloucestershire and the workforce plans as a whole have been debated openly in all these forums before the decisions encompassed in the OBC and the ABC were made.

This approach to open involvement will be maintained through the subsequent change processes.

13.10.5 Relationship Between Trust and PFI Provider

There is no issue of TUPE between the Trust and PFI provider, based on existing workforce plans. The Trust will need to be pro-active to ensure that this issue will not arise for any staff subsequently appointed.

The Trust will however liaise closely with the PFI provider regarding the terms and conditions which they will offer to their employees, and would expect some parity with Trust employees in similar positions. The Trust would also expect that the PFI provider acts at all times in employment within the legislative framework for equality and diversity.

The HR Strategy will ensure that:

- Staff are kept fully informed and involved in the process from the outset.
- Staff are provided with the appropriate advice and assistance at all key stages – including representation.
- A senior manager is designated as responsible for communication.
- Equal opportunities policies and principles are upheld at all stages of the process.

13.11 OVERALL PROJECTIONS

In the OBC the Trust made an initial assessment of the structure of the workforce in 2013/14. This assessment took into account the workforce changes, which would take place as a result of:

- Growth, service development and cost of quality pressures.
- Financial Recovery Savings
- Transfers to the independent sector
- Transfers to and from other acute providers
- Transfers to the community and primary care
- Staff changes consequent upon the creation of one acute hospital and the associated synergy savings.

The following table sets out this assessment.

	WTEs								
Staff Group	Budgeted WTE at 31/03/2009	Internal Develop. to 14/15	Growth to 14/15	Transfers to 14/15	CRES to 14/15	Sub-total WTEs Prior to New Hospital	Reduced hard FM	New Hospital Savings in 14/15	Budgeted WTE at 31/03/2015
Medical Staff	852	21	28	-18	-97	786		0	786
Nursing	3,176	74	102	-38	-609	2,705		-301	2,404
AHPs & Other Clinical Staff	1,277	18	41	35	-144	1,227		-43	1,183
Admin & Clerical & Management	1,572	21	51	4	-190	1,456		-32	1,425
Healthcare Support Staff	755	11	24	16	-91	715	-76	-93	546
Total	**7,631**	**145**	**247**	**-2**	**-1,132**	**6,889**	**-76**	**-469**	**6,344**

The 7631 WTE's budgeted currently is made up of 3739 WTE's on the Southmead site, 3558 WTE's on the Frenchay site and 334 WTE's on other sites.

The net reduction in staff numbers prior to the opening of new hospital of 742 WTE's is due to ongoing activity changes and efficiency savings on all sites. The reduction of 469 WTE's on the move to the new hospital is achieved to a great extent by the synergies and economies of scale that can be achieved by moving from two aging acute hospitals to a single purpose-designed new hospital. The new acute hospital will have approximately 5800 WTE's.

However, two particular additional changes will impact on the future workforce:

- The establishment of an IVF service on the Southmead Hospital site, bringing together the NBT and the University of Bristol service. This brought additional 36 WTE staff to the staff.

- Success by the Trust in being identified as the preferred provider for CAMHS and Community Paediatrics across Bristol and South Gloucestershire. This will bring an additional 260 WTE staff into the Trust.

The principles trends in workforce numbers are summarised as follows:

Workforce increase

- Growth in workload
- Extended hours services to meet patient need and patient choice
- Particular growth in specialist services, e.g. Renal
- Important quality improvements
- Development of the community centres and hospitals network
- Transfers in of staff as a result of service changes

Workforce decreases

- National efficiency targets
- Savings to generate surpluses (annual 3% CRES)
- New hospital efficiencies (2.5%)
- Move to one acute site, rather than two sites
- Introduction of ISTCs and other providers into the health community
- Transfers out of staff as a result of service changes

The Trust is seeking to avoid redundancies as far as possible. The 469 WTE new hospital savings in 2014/15 will be managed largely through natural staff wastage and redeployment. However, due to the timescales involved there is a risk of staff redundancy. As a result of this a provision has been included based on 5% of pay savings requiring a redundancy and an average cost of redundancy of 3x annual saving, resulting in an overall contingency of £2.1m. The potential impact in WTE terms is as follows:

	Redundancy provision £'000	Potential Redundancy (worst case) (WTE)	Natural wastage / redeployment (WTE)	Total
Theatres, daycase unit and recovery	312	5	95	100
Pharmacy, radiology and pathology	155	1	30	31
Outpatient nursing	40	1	9	10
Nursing (not ward based includes clinical site management team)	80	1	14	15
Junior doctor rotas and consultant on call rotas	71	0	0	0
Therapy services	51	1	10	11
Management and admin staff	172	2	30	32
Travel and transport	61	0	6	6
IT	52	0	0	0
Catering and restaurant	89	2	47	49
Portering	56	1	17	18
Security	34	0	0	0
Other facilities support	30	0	7	7
Non-pay harmonisation/procurement	20	0	0	0
Lower nursing costs of larger wards	221	3	63	66
Bed savings	350	3	59	62
Futher performance savings	350	3	59	62
Total	**2,146**	**23**	**446**	**469**

13.12 MONITORING AND PERFORMANCE

The Workforce Monitoring group will take responsibility for tracking progress and ensuring savings plans remain on target. To fulfil this role, the group will receive regular monitoring reports on the

key performance indicators including:

- Numbers of WTE in post by function and grade compared to plan.
- Trajectory analysis showing progress against plan.
- Variance report with explanations of differences.
- Case mix analysis assessing actual versus planned mix.
- Financial analysis.

The Group will report in to the Project Board and in addition will deliver reports for the SHA to form the basis of 6monthly monitoring reports. The SHA will incorporate these in to the regular performance monitoring and assessment of the Trust. Key variances from plan will be reported to the Trust Board and where critical to the SHA Board.

SECTION 14: PROGRAMME MANAGEMENT AND TIMETABLE

14.1 INTRODUCTION

This section sets out how the programme is managed through its stages of Competitive Dialogue and on-going development.

14.2 PROJECT STRUCTURE

The local health community, comprising North Bristol Trust, NHS Bristol and NHS South Gloucestershire, is responsible for the overall success of the project with North Bristol Trust retaining day to day responsibility for project management and associated contractual issues. The project is included within the Bristol Health Services Plan programme which acts as a reference group. However, responsibility rests with the boards of the three organisations for this project.

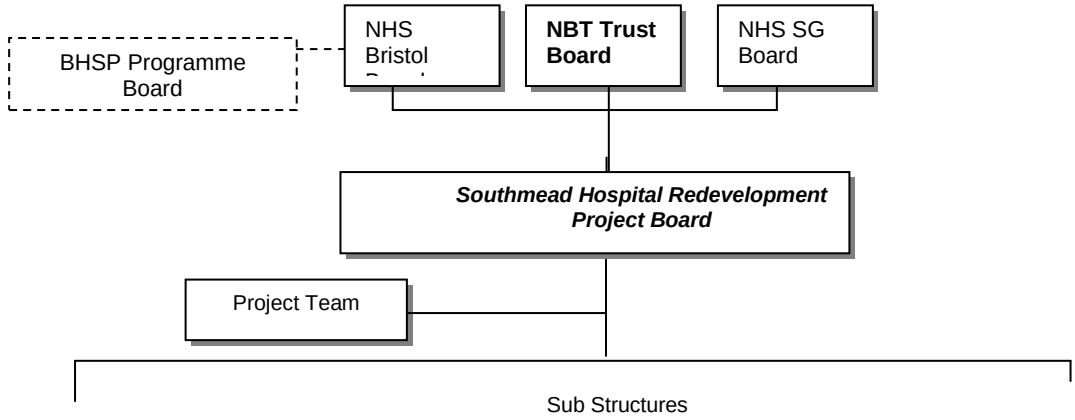
Details of the key roles with responsibility for the Southmead Hospital Redevelopment Project are set out in the table below:

Key Roles and Responsibilities:

Project Sponsor (SRO)	**[REDACTED],** Chief Executive, NBT
Project Director	**[REDACTED],,** Director of Projects, NBT
Lead project management roles	**[REDACTED],**: Southmead Hospital Redevelopment, NBT **[REDACTED],**: Southmead Community Hospital, NHS Bristol

The high level planning structure for managing the programme is set out in below.

Programme Structure:



Sub structures reporting to the Project Board and covering key areas such as service planning, finance, workforce, estates and design include representatives from the Trust, commissioning organisations plus staff side and public representation where appropriate.

14.3 PROJECT SUB STRUCTURE

The project has been configured into a number of work streams to deliver each stage of the project. These work streams will change as the project develops. The project sub-structure is set out in the table below. Terms of reference have been agreed for all sub-groups. These sub-groups have included broad representation from Trust staff union representatives and users and they have been involved in the agreement of specifications, design process and evaluation. These groups have been responsible for the confirmation of the functional suitability of the design.

Detailed terms of reference have been established for all groups including their levels of delegation, key deliverables and group quoracy.

No.	Workstream	Senior Lead	Project Manager	Involved in Evaluation?
1	**Central Project Team**	**[REDACTED],**	**[REDACTED],**	Yes
2	**Clinical Specification Group**	**[REDACTED],**	**[REDACTED],**	Yes
3	**Design Group**	**[REDACTED],**	**[REDACTED],**	Yes
4	**Facilities Management**	**[REDACTED],**	**[REDACTED],**	Yes
5	**IM&T**	**[REDACTED],**	**[REDACTED],**	Yes
6	**Finance**	**[REDACTED],**	**[REDACTED],**	Yes
7	**User and Access Group**	**[REDACTED],**	**[REDACTED],**	Yes
8	**Equipping & Commissioning**	**[REDACTED],**	**[REDACTED],**	Yes
9	**Commercial**	**[REDACTED],**	**[REDACTED],**	Yes
10	**Art**	**[REDACTED],**	**[REDACTED],**	Yes
11	**Sustainability**	**[REDACTED],**	**[REDACTED],**	Yes
12	**Communications and Public Involvement**	**[REDACTED],**	**[REDACTED],**	No
13	**Workforce**	**[REDACTED],**	**[REDACTED],**	Supporting other groups
14	**Enabling**	**[REDACTED],**	**[REDACTED],**	No
15	**Technical/Logistics**	**[REDACTED],**	**[REDACTED],**	Yes, plus supporting design and sustainability groups

14.4 PROGRAMME MANAGEMENT APPROACH

The programme management approach to the project is through use of the key principles of Prince2 project management methodology. The Project Manager for the scheme is a Prince2 practitioner and the programme utilises a number of standard Prince2 products such as project/programme initiation documents, highlight reports, risk registers and issues logs. Highlight reports are provided to each monthly Project Board and reported to the Trust Board. Terms of reference have been established for all key groups supporting the projects and records maintained of all relevant discussions.

The Project Team, comprising representatives from key disciplines meets on a weekly basis to progress issues and to address any exceptions in accordance with the project and stage plans.

The Project Team also co-ordinates the Trust's enabling works programmes to ensure that the Trust's key milestones and objectives also meet the assumptions in the Bidders' Project Plans for all the phases of the development.

14.5 TERMS OF REFERENCE

The terms of reference for the Project Board and Project Team are set out below:

<table>
<tr><th colspan="3">Southmead Hospital Redevelopment Project Board</th></tr>
<tr><td>Overall Responsibility & accountability</td><td colspan="2">For the overall direction, management and governance of the Southmead project.
Accountable to the Trust Board, NBT</td></tr>
<tr><td>Objectives</td><td colspan="2">• Specifies and oversees the project management arrangements for the project including project initiation and on going development.
• Provides overall guidance and direction to the projects, ensuring they remain within specified constraints
• Takes decisions on key issues without delay and within delegated tolerances, agreeing actions to be taken forward.
• Reviews completed stages and approves plans for the next stage
• Takes ownership of risk associated with the project
• Approves changes to the projects within agreed tolerances
• Approves project deliverables including Project Initiation Document, OBC, OJEU notice, PQQ, MOI, ITPD, ABC and CBC.
• Refers issues outside its delegated tolerances to commissioning organisations, SHA and PFU
• Assures successful completion of all products and approves project closure documentation and follow-on actions</td></tr>
<tr><td>Delegation limits</td><td colspan="2">Decision making in accordance with NBT's detailed Scheme of Delegation (July 2005) but which does not have implications for projects within BHSP. It cannot make decisions that significantly affect the finances of each organisation. It has delegated responsibility for managing and controlling the Southmead project budget.
NBT Scheme of Delegation is summarised as follows:</td></tr>
<tr><td></td><td>Revenue:
£100 - £500k: Director of Finance
£500k - £1 million: Chief Executive
Over £1 million: Trust Board</td><td>Capital:
£100k - £500k: CPMG approval
>£500k: Trust Board</td></tr>
</table>

Southmead Hospital Redevelopment Project Board		
Membership	**Name**	**Project Role**
	Chief Executive NBT	Executive
	Non-Executive Director	Non-Executive Director
	Medical Director NBT	Senior User
	Director of Finance NBT	Senior Supplier
	Director of Projects NBT	Project Director
	Director of Organisation People & Performance NBT	Workforce Manager
	Dept Dir of Projects	Project Manager
	Dir of Strategic Planning	Senior User (NHS Bristol)
	Dir of Strategic Planning	Senior User (NHS South Gloucestershire)
	Director of Nursing	
	Director of IM&T	
	Director of Operations	
	Director of Facilities	
	SHA Capital Lead	
Chair	Chief Executive North Bristol NHS Trust	
Quoracy	A minimum of 4 attendees in total	
Frequency & duration	Once per month on 2nd Friday. Duration: maximum 2 hours	
Administration	Deputy Project Director Agenda to be circulated a minimum of one week before the meeting and notes of the meeting to be circulated no later than 1 week after the meeting	

Southmead Project Team	
Overall Responsibility & accountability	For the delivery of work steams to achieve the project objectives for the Southmead and Frenchay projects, in particular the production of project documentation at all project stages. Accountable to the Project Board.
Objectives	Agrees the division of the project into stages of work and develops structures and procedures to progress the projects subject to Project Board agreement. Develops stage plans for work streams, agrees work packages and monitors their achievement. Signs off outputs for the Project Board. Agrees corrective action to meet stage and master plan milestones as required within delegated approval limits. Assists the Project Manager in reviewing and addressing project risk. Responsibility for the production of all project deliverables, in particular the project management documentation including the PID, risk register and issues log, and the formal project documentation such as business cases, and ITN documentation.
Delegation limits	Decision making that is in line with the project objectives and which does not deviate from the overall programme, project budget or frameworks agreed by the Project Board. It operates in accordance with NBT's detailed scheme of delegation (July 2005).
Membership	Project Director, clinical expertise, finance, service planning and facilities management. Advisors support the project team as required
Chair	Project Director
Frequency & duration	Frequency as required over project stages, but generally weekly for up to two hours
Administration	Project Manager Forward agenda including issues log to be circulated a minimum of one day in advance of the meeting.

14.6 THE ADVISORY TEAM

The project is support by an experienced professional advisory team as set out in the table below:

Advisor	Role
Hulley and Kirkwood, Craddey, Pitchers, Davison	Engineering
NBBJ Architects	Architects
Ridge	Quantity surveyors
RBC Capital Markets	Financial Advisors
HTM	Equipping
Bevan Brittan	Legal Advisors
White Young Green	Planning Consultants
AON	Insurance Advisors
KPMG	Tax and Accounting Advisors
Laing O'Rourke	P21 PSCP
Funder's Advisors:	
Faithful & Gould	Technical
Allen & Overy	Legal
Marsh	Insurance

14.7 PROJECT ASSURANCE

Project Assurance has been achieved on the project through an internal audit process, the DH Gateway Review process and the Design Review Panel. Gateway reviews were completed before each previous stage of the project and a further Gateway planned for September/October 2009.

14.7.1 Internal Audit

Internal Audit has provided independent project assurance throughout the project at all key stages. Following a detailed review at all key stages, it has given a rating of 'significant assurance' against each assessment. The latest assessment from Internal Audit in relation to the selection of the preferred bidder is set out below:

Our most recent review built upon work undertaken to provide project assurance at the draft final bid stage in August 2008. Since that time we have maintained a 'watching brief' as negotiations continued in refining the designs with each bidder whilst the necessary approvals in respect of the Appointment Business case and for closure of the competitive dialogue process were received from the Strategic Health Authority and Department of Health respectively.

In our opinion, the Trust has **Significant Assurance** that the key controls are operating effectively to manage this critical stage of the project. This opinion is based upon:

a) The significant assurance obtained from work undertaken at the Draft Final Bid stage and reported within Internal Audit number 380 dated 8.8.2008.

b) Confirmation that the final bids were managed in accordance with the IFTSB requirements and opened under tender control processes operated in accordance with the Trust's Standing Orders.

c) The continued effective operation of controls designed to identify and manage any potential conflicts of interest.

d) Completion of an effective formal evaluation process to ensure that the reviews conducted by each workstream were each formally documented, scored in accordance with guidance provided by the central project team and accurately collated within the summary information tables used to generate the scores presented to the Project Board.

e) Confirmation that the evaluation score weightings were accurately applied, in accordance with the ITPD Volume 4 issued to bidders in 2008.

f) Management by each Evaluation Team, overseen by the central project team, of Requests for Clarification (RFC) submitted to each bidder following the draft final bids and the responses received to each one. Each Evaluation Team was required to confirm in relation to the Final Bid that:

   i) the bid confirms all the RFCs that we have accepted and understood
   ii) identifies any issues or material changes that need to be flagged to the preferred bidder for action

g) The ongoing management by the project team of both the Issues Log and Risk Register and reviews of these items within Project Team meetings and also at the Project Board. The Risk Register was overhauled for presentation to the January Project Board to provide a more user friendly overview (by grouping risks into headings) and also a greater granularity (through use of risk scores rather than High/Medium/Low ratings). The top 3 or 4 risks are also included within the monthly Highlight report to each Trust Board.

14.7.2 Gateway Review

Regular Department of Health Gateway reviews have taken place throughout the procurement process to assess project governance and management, as follows:

- **Gateway (0)** was completed in March 2004 as part of the programme of projects within the Bristol Health Services Plan
- **Gateway (1)** was undertaken in December 2005 - amber status
- **Gateway (2)** was completed in May 2006 - amber status
- **Gateway (3a)** was completed in May 2008 - amber status

Gateway (3b) will be undertaken prior to formal approval of the appointment business case.

14.7.3 Design Review Panel (DRP)

In relation to design, the DH commissioned Design Review Panel has reviewed the public sector comparator and emerging bidder designs as follows:

- **DRP (0)** was completed in May 2005 and identified a number of useful approaches to be taken to the design of facilities on the Frenchay and Southmead sites.
- **DRP (1)** was completed in December 2005
- **DRP (1)** a review was held 20 April 07

- **DRP (2)** took place on 6 Feb 08
- **DRP (2)** a review was held in April 08

14.8 PROJECT PLAN AND TIMETABLE

The Key milestones are set out in the table below:

Part	Task	Milestone
Part 0	**Trust preparation of documentation**	July 07
Part 1	**Pre-Qualification**	
	Pre-qualification: select three bidders	July 07
Part 2	**Opening of Competitive Dialogue with 3 bidders & issue of ITPD**	
	Opening of Competitive Dialogue and issue of ITPD	Aug 07
	First bidder meetings	Aug 07
	Appoint funders' due diligence advisors	Sept 07
	Commission Stage 1 due diligence report on Project	Nov 07
Part 3	**Interim Submission & selection of 2 bidders to continue dialogue**	
	Return of Interim Submission	Dec 07
	Evaluation and selection of solutions from two bidders	Jan 08
Part 4	**Scheme development and further dialogue**	
	Continued dialogue with two bidders	Jan 08
	Amendments to commercial redrafting issued to bidders	Feb 08
Part 5	**Draft bids**	
	Submission of draft bids and further dialogue.	Jun/ Jul 08
	Commission "fly over" review on draft bids	Jan 09
	Conclusion of dialogue	Feb 09
Part 6	**Final bids**	
	Trust issues Invitation to Submit Final Bids (ISFB)	Feb 09
	Submission of final bids	Feb 09
Part 7	**Evaluation and selection of a preferred bidder**	
	Evaluation and selection of preferred bidder the Trust is minded to appoint	Feb 09
	Advise provisional preferred bidder the Trust is minded to appoint	Mar 09
	Commission Stage 2 due diligence report on the provisional preferred bid	Mar 09
	SHA approve Appointments Business case (ABC)	April 09
	DH approve ABC, appointment of preferred bidder and preferred bidder letter issued	April 09
Part 8	**Final design, planning consent, funding competition - Fin Close**	
	Close of final design issues	July 09
	Preferred bidder submits final designs for planning	July 09
	Full planning consent obtained	Oct/Nov 09
	Funding competition commenced	Nov 09
	Confirmatory Business Case (CBC) submitted	Jan 10
	Trust approves selection of winning funder	Jan 10
	Novate funding advisors' appointments to the selected funder	Jan 10
	CBC approved	Feb 10
	Financial Close achieved	Feb 10
	Construction	
	Data centre	Aug 09
	Pathology sciences Phase 1	Aug 09
	Learning and research	Oct 09
	Pathology sciences Phase 2A	June 11
	Other Trust developments	2013 -2016
	Main building	2014
	Completion of landscaping and demolitions	2015

SECTION 15: RISK MANAGEMENT STRATEGY

15.1 INTRODUCTION

Risk management is a programme control which is managed through the mechanism of a risk register. The risk register is owned by the Project Director and managed by the Project Manager.

For the Competitive Dialogue stage of the Project, risk management has focused on the risks associated with not only the Bristol Health Services Plan but more particularly the risks associated with the development of the new hospital at Southmead. These risks are set out below.

Risks associated with the further stages of project development will be established for each project stage and will be included in the risk register. These risk groups will include:

- Activity and capacity
- Affordability
- Programme
- Product quality
- Standard form/commercial points
- Other project risks

15.2 RISK REGISTER

The risk register includes the risk, the risk impact and the probability and impact of each risk on the project as a value. Each risk has an associated mitigation strategy and a risk owner responsible for managing the risk and escalating it to the Project Team or Project Board if required.

The risk register is maintained by the Project Manager but risks are the responsibility of the allocated risk owner. Relevant risks are reported to the Project Board via the monthly highlight report. All members of the Project Team and Project Board are responsible for risk identification and mitigation. Any identified risks are reported to the Project Manager for entry onto the risk register. The risk management cycle is applied to the project:

- Identify the risks: any project member to report the potential risk to the Project Manager. The Project Manager will allocate a risk owner to the risk where the risk was identified by someone who is not responsible for the subject of risk.
- Evaluate the risks: depending on level of risk, this will either be the risk owner with the Project Manager or Project Team. Evaluation takes into account the probability and impact of the risk occurring. It will also identify the proximity of the risk. Risks should be categorised as high, medium or low in terms of probability and impact. Impact needs to be considered in relation to the effect on time, quality, opportunities and benefits and people and resources.
- Identify suitable responses to the risk/s: Risk responses include prevention, reduction, transference, acceptance or contingency and actions will be agreed between the risk owner and the Project Team or Project Manager depending on the nature of and level of risk.
- Plan and resource those responses: Risk owner to actively manage the risks via an agreed action plan such that the level of risk reduces.
- Monitor and report: risk status should be regularly updated on the risk register and requires the risk owner to update the Project Manager of the risk status. The Project Manager includes high risks in the highlight report to the Project Board.

15.2.1 Risks Identified at OBC Stage

There were a number of critical risks identified during the course of development of the OBC. To respond to these risks a number of mitigation strategies were developed and built into the structure of the Project and many of the risks have been closed out. The remaining risks have been incorporated into the risk register and a regular review has been embedded into the project structure.

15.2.2 Risks Identified During OJEU and ITPD Process

During the preparation of the procurement documentation as well as during competitive dialogue, further risks have been identified. Those that have not been fully mitigated are also included in the Risk Register.

15.2.3 Table of Risks Identified

The remaining risks and mitigation strategies identified in 13.2.1 and 13.2.2 above are set out in the following table with the top 10 identified in bold:

Risk	Risk Impact	Mitigation
Activity and Capacity		
Activity growth is more than forecast	Income increases but the scheme is potentially too small.	Increase occupancy level from planned 86%. Use 48 vacated beds within Malvern and Cotswold wards, which exist adjacent to maternity unit. In extremis retain the AOC building Reduce turnover interval of beds. Move towards seven-day elective operating. Increase size of planned Frenchay Community Hospital. Extend new Southmead Hospital (outline planning consent allows for expansion).
Activity growth is less than forecast	The scheme is over-sized and income is reduced leading to a potential affordability gap.	Other clinical services (obstetrics, low-risk births and potentially intensive rehabilitation) that are not currently planned to be provided within the new hospital could be accommodated, thus increasing the income per square metre and releasing other estate costs. The release would save circa £1m p.a. The capacity (in terms of beds, staffing and certain direct costs) associated with the reduced activity could be scaled down and the space vacated. The planned Frenchay Community Hospital could be reduced in size. Reduce discretionary investment in North Bristol NHS Trust financial plan. Increase savings plan.

Risk	Risk Impact	Mitigation
Activity shift to the new Independent Sector Treatment Centre at Emerson's Green is different to that forecast	The scheme is over-sized and income is reduced leading to a potential affordability gap.	Prudent assumptions are in place. These have been agreed with local Primary Care Trusts. The design of the new hospital is highly flexible, with all surgical facilities standardised. Switching facilities from one specialty to another is easily achieved. Should the overall activity levels be different to those forecast see the mitigation measures described above.
Change in profile of specialty configurations across Bristol leads to a different set of specialty provision in NBT.	The scheme is designed with the wrong type of capacity leading to expensive reconfiguration of the hospital after completion.	The building has been designed with generic groups of in-patient, outpatient and clinical core services instead of a more bespoke clinical village model. This approach allows for changes in the sets of specialties housed in the scheme without change to the basic structure of the building. In addition the scheme is being specified to include generic rooms for the high volume content such as outpatient consulting rooms, wards and office facilities. This approach leaves the building with around 95% translatable generic space with a relatively small percentage of inflexible space.
Changes in technology and medical practice	The scheme is designed with the wrong type of capacity leading to expensive reconfiguration of the hospital after completion.	See above but also use of techniques such as merging theatre with interventional radiology space and also the fit-out of the building with highly flexible IT and communications capabilities.
Service transfers	Concern that specialist Paeds transfer to BRI does not happen by time of establishment of acute/ emergency phase of new build and new build too small.	Generic space planning allows for temporary mix changes and closure programme around old Southmead could be managed to allow time to resolve service transfer issues. Close liaison is maintained with UHB to ensure early warning signs are picked up.

Risk	Risk Impact	Mitigation
Affordability		
Planned savings are not delivered	Increased expenditure, reduced level of surplus from 2013/14	Majority of savings plan is based on specific plans and, given the opportunity for synergy savings as a result of centralisation of services, is robust. Further work is underway to strengthen the latest £2.6 million savings target arising as a result of the opportunities for productivity improvement to ensure that it is delivered. Overall savings as proportion of turnover is lower than that which has been achieved over each of the last three years. Clinical re-design group in place with senior executive and clinical representation. The group oversees the implementation of the new model. Where possible savings plans as a result of clinical re-design are being brought forward. Level of surplus forecast in 2013/14 is £4 million, rising in future years. This acts as a buffer against the risk of a shortfall in planned savings.
	Increased requirement for beds	Existing performance assumptions would mean that there would be spare capacity of 50 beds in the new hospital that would act as a buffer against an increased requirement for beds. Increase occupancy level from planned 86%. Reduce turnover interval of beds. Move towards seven-day elective operating. Increase size of planned Frenchay Community Hospital. Extend new Southmead Hospital (outline planning consent allows for expansion).
Bidders cannot apply full indexation of construction costs	Unitary Payment is increased from Year 1 by £5m per annum.	Vfm analyses submitted to the PFU to demonstrate Vfm of full indexation of UP

Risk	Risk Impact	Mitigation
Volatility in financial markets leads to increased funding costs	A 1% increase over-and-above the existing 0.5% buffer would lead to an increase in costs of £3.4 million per annum	The indicative Unitary Payment assumes a 0.5% buffer above prevailing market rates at the time of bid submission. In addition to this the affordability cap has been set £3.4 million higher to allow for a 1.0% increase in funding costs over-and-above this buffer. North Bristol NHS Trust is required to demonstrate affordability with financing costs a full percentage point above the existing half percentage point buffer. European Investment Bank funding has been secured for £200 million. The Bank has indicated that more financing might be possible if existing conditions in finance markets continue or worsen. Should the financing costs be too high, the various parties are prepared to wait until there is a fall in financing rates. North Bristol NHS Trust is aiming to achieve a rating for the project of A-, which would enable an unwrapped bond to be used, which will result in financing costs being lower. Bonds are generally cheaper than bank financing, and might be easier to obtain in the current market. An 'unwrapped bond' is one in which the credit rating of the project itself is also taken into account by the bond purchasers, rather than just the credit rating of the bond insurer.

Risk	Risk Impact	Mitigation
Price creep from closure of competitive dialogue to financial close as a result of finalising design	£0.26 million per annum	From the period from closure of competitive dialogue until selection of preferred bidder, there remains competitive tension. In addition, prices cannot change once fixed price bids have been submitted in the period until the selection of preferred bidder, and can only change from then until financial close within tight, previously-agreed, parameters. Both schemes are highly-designed and need minimal development prior to conclusion. Any client changes can only be approved following consideration by the design group and if signed off by the Project Director. Capital costs have been benchmarked against the last five Private Finance Initiative schemes to reach financial close. The indicative capital expenditure level includes two significant provisions for risk. The first is normal planning contingency of 10%, which is the standard level applied to all capital developments. The second is optimism bias, a further contingency which has to be applied to the pricing of capital developments to take account of the relative complexity and risks of delay for the scheme. The level of optimism bias applied to this scheme is also 10%.
Advisor contracts are based on the Negotiated procedure not Competitive Dialogue.	Advisor contracts are terminated leading to need to re-tender with potential impact on project costs up to £500k.	Stage fees may be revised within overall budget to reflect renegotiation and re-tender if necessary. Advisor expenditure is monitored and adjusted to respond to over activity. The project budget contains some contingency for over-run.
Transitional costs exceed those anticipated	Increased expenditure, reduced level of surplus in the year in which costs fall	Prudent approach to anticipated transitional costs. Certainty over timing of individual transitional costs will increase closer to the transitional period. This might provide the opportunity for some costs to be re-phased into different financial years. Opportunity to use Strategic Investment Fund to 'smooth' the non-recurrent impact in the year in which they fall.

Risk	Risk Impact	Mitigation
Transitional funding requirement exceeds the South West Strategic Health Authority 'bundle'	Based on forecast capital expenditure, allowance is £40.7 million, with £20.8 million of this required in 2013/14. The total size of the 'bundle' is £18 million per annum.	The current forecast transitional funding allowance is affordable. However, the funding requirement exceeds the size of the 'bundle' in 2013/14. This will require 'smoothing' through using the Strategic Investment Fund.
Overspend on Enabling programme	Costs of Enabling Programme exceed budget allocation, 10% overspend would be £3m	Enabling projects have been specified in detail. Procure 21 has been used for the major enabling projects to allow for price certainty around key risks and transfer of identified risks to the P21 contractor. Project managers have been identified for the main enabling projects. The project is using experienced QS support to support the enabling projects.
Programme		
Problems with Town Planning Application	The scheme is delayed due to a protracted process. Costs increase due to onerous Section 106 requirements. Planning permission is too constraining on the scheme and does not allow sufficient scope for PFI innovation.	An Environmental Impact Assessment was developed at an early stage to set clear parameters for the scheme. The Trust has engaged the Local Authorities at an early stage and has received commitment to allocating dedicated manpower to the application.

Risk	Risk Impact	Mitigation
Project is mismanaged	The overall programme becomes delayed and problems arise due to escalating capital inflation and procurement costs.	The project has undergone three successful Office of Government Commerce Gateway reviews which provide an external, independent assessment of the strength of the project management and, in particular, the management of project risks. At least two further Gateway reviews will be conducted at key stages of the project, the next immediately prior to Financial Close. The Trust is maintaining a Prince 2 programme management system and has recruited a Project Team with experience of managing complex PFI procurement. The Trust has also developed an enabling scheme programme that will allow the PFI to be procured as a one phase development. This will make the development simpler and easier to manage from a commercial perspective.
Enabling Schemes are delayed and run into difficulty due to complexity.	Main PFI scheme is delayed due to unavailability of site with potential penalties being incurred due to PFI delay	Enabling Programme Board meets monthly with focus on interdependencies. Enabling team trained on project methodologies. Enabling demolition packages placed with PFI contractor.
Detailed design programme is late	Insufficient time to complete 1:50 reviews with all key users, leading to potential problems with finished design.	Standardisation of rooms and flexible accommodation adopted where possible for principles to be applied. Regular review of stakeholder involvement to ensure all key personnel involved in Bid Evaluations
Business case sign off is delayed or not achieved	The programme is delayed land there are problems managing Bidder and Project costs with an extended approval timetable.	The PCTs and SHA are included on the Project Board. The DH is included in weekly team conference calls to pick up any major issues of concern. The scheme has been refined to ensure compliance with national affordability tests and hurdles. The scheme has been designed to meet the latest developments in health policy including the Darzi review, with a focus on centralising specialist services and decentralising outpatient and diagnostic services into community settings.

Risk	Risk Impact	Mitigation
Product quality		
The Clinical Model is not implemented successfully.	The productivity targets cannot be met and the building environment will not be appropriate to a partially implemented model.	This is the key risk in the Project and as such will require the most attention. The Trust has a Service Redesign Group charged with overseeing the implementation of the new model. The group has wide representation from within the Trust and will be serviced and supported by dedicated staff. This group is a composite team pulling together the Trust operational here and now processes with the longer term objectives. The Group reports directly to the Executive team which focuses on this issue as a main agenda item. This allows the programme of change to have CEO level focus during a period of organisational restructure that could potentially refocus senior management attention elsewhere over the next few years. In addition the BHSP Project team will support the process with learning events and networking into the other programmes of development within BHSP and with other programmes around the country.
The workforce is not developed to meet the demands of the clinical model	The clinical model cannot be delivered effectively leading to problems with capacity and affordability due to failure to meet efficiency targets.	The Trust has established a workforce group to target the actions required to implement the necessary changes. This group has put in place an implementation plan and reports to the Project Board.
Design is not fit for purpose	The building environment does not meet the needs of the Trust or the patient	The project has a dedicated clinical specification team with a broad range of representation. Patients and staff have been heavily involved with the development of the design. PFI bidders have engaged strong design teams with good track-records.

Risk	Risk Impact	Mitigation
Building is not designed to the right finish	The building environment is disappointing to patients and staff and generates a sense of anti-climax	The design specification has been detailed to describe exact standards of design finish. The project has utilised a kit of parts approach to allow Bidders to detail large parts of the building during competition. The Bidders are required to produce benchmarks and mock-ups to allow the scheme to be tested for quality.

15.2.4 Trust Retained Risks and Management Plans

Employing a PFI solution will result in a significant proportion of the total project risk being transferred to the private sector. However it is acknowledged by the Trust that certain risks are retained by the Trust under PFI Standard Form 3. The table below summarises the key risks that are to be retained by the Trust for those ongoing stages and outlines the Trust's proposals for their management and mitigation.

RISK		MITIGATION
1.3 Change in the requirements of the Trust	The NHS Trust may require changes to the design, leading to additional design and construction costs	The Trust has sought to identify their requirements clearly through their whole hospital policies and design operational policies. The whole hospital policies cover hospital-wide issues such as security, fire, occupational health, infection control, radiation protection, etc. The design operational policies are departmental based. All the policies have been developed by User Groups. The work has been overseen and co-ordinated by senior clinicians and the Trust's dedicated Project Team. This has ensured that whole hospital and design operational policies are in line with each other and that all policies are consistent in their expectations. 1:50 drawings for all key areas have been produced and agreed by clinical staff. The Development Control Plans, Schedules of Accommodation, Activity Database sheets, 1:200 plans and 1:50 plans will be signed off by the Trust and reconciled to ensure a clear audit trail between the documents and the specified design operational policies. The Trust has agreed that these documents are, when signed, prime contractual documents and can only be changed by the agreed change mechanism process managed by the Trust's Project Director or Project Board

RISK		MITIGATION
1.5 Change in design due to external influences specific to the NHS	There is a risk that the designs will not need to change due to legislative or regulatory changes specific to the Trust	The monitoring of external issues is part of the Trust's established risk management arrangements. If legislative or regulatory changes were to emerge, these would be evaluated at the earliest opportunity and any new requirements identified would be introduced at the most appropriate point available either before, during or after construction.
1.7 Detailed design programme is late	Insufficient time to complete 1:50 reviews with all key users, leading to potential problems with finished design and planning application delaying overall programme. Reduces risk included in P3.	Standardisation of rooms and flexible accommodation adopted where possible for principles to be applied. Regular review of stakeholder involvement to ensure all key personnel involved in design development. NBT to agree revised programme with Preferred Bidder and understand delay and cost implications to overall scheme.
1.8 Business case sign off is delayed or not achieved	The programme is delayed land there are problems managing Bidder and Project costs with an extended approval timetable.	The PCTs and SHA are included on the Project Board. The DH is included in weekly team conference calls to pick up any major issues of concern. The scheme has been refined to ensure compliance with national affordability tests and hurdles.
2.2 Unforeseen ground or site conditions	Increased costs incurred by Trust	Supplementary surveys for Phase 1 site and buildings completed and reports shared with bidder
2.3 Unforeseen ground or site conditions under existing buildings	Increased costs incurred by Trust	Supplementary surveys for Phase 1 site and buildings completed and reports shared with bidder. These reports are used to inform estimates for what contractors might expect to discover beneath the buildings
2.4 Delay in gaining access to the site	Increased costs incurred by Trust	The proposed location for the new clinical building will be cleared by Trust's Enabling Programme, vacate all buildings and decommission in line with Advanced Works Programme and prior to FC

RISK		MITIGATION
2.8 Compensation events and Force Majeure	Delay in realising the project revenue savings	The risk valuation of these events is based on their residual impact, i.e. additional expense or a delay in realising the projected revenue savings. The impact of these events is beyond the Trust's control. Should they occur, they will be managed through the Trust's established risk management arrangements and, where necessary, in conjunction with the Trust's main commissioners.
2.13 NHS specific legislative and regulatory change	Increased costs incurred by Trust	The monitoring of external issues is part of the Trust's established risk management arrangements. If legislative or regulatory changes were to emerge, these would be evaluated at the earliest opportunity and any new requirements identified would be introduced at the most appropriate point available either before, during or after construction.
2.21 Incorrect time and cost estimates for decanting from existing buildings	The estimated cost of decanting the buildings may be incorrect, there may be delays leading to further costs.	Existing development plan for decant proposals to be further ratified and updated in line with Project Co construction proposals. Trust Enabling Programme including decommissioning reviewed every 2 weeks
2.22 Incorrect time and cost estimates for commissioning new buildings	The estimated cost of commissioning the buildings may be incorrect, there may be delays leading to further costs.	The trust has appointed a dedicated enabling and commissioning team to ensure focus on deadlines for commissioning. The team has been augmented with a Technical Director with experience in this field.

RISK		MITIGATION
3.2 Change in the specification for the operational stage of the contract	There is a chance that during the operating phase of the project, the procuring entity of the services will require changes to the specification	The service output specifications, which have been developed with the involvement of service managers and operational staff, attempt to define clearly the Trust's service requirements. The emphasis within these specifications is on the achievement of outputs and service performance. They do not specify the inputs to service delivery, where operational changes are most likely to occur, this risk remains with the Project Company. The residual risks that remain are that the Trust's requirements will change in the period leading up to the operational phase of the scheme. The Trust is seeking to manage this risk by examining the current service operations in detail as part of the development of the service specifications. Should changes be sought by the service provider during the operational stage, these will be managed by the Trust through a strict service variation process and the Trust will have the opportunity to reconsider service enhancements and value for money improvements every five years at each market testing of soft FM services.
3.11 Death or injury attributable to the Trust (variation to existing cost)	In the eventuality that there is a risk to injury and or death impacting the Trust	The trust has attempted to develop clear lines of segregation for the project and existing activities and has also employed consultants to plan access/transport/pedestrian routes to avoid potential hazards.
4.3 Legislative/regulatory change having capital costs consequences: NHS specific	NHS specific changes to legislation may lead to additional construction costs	As part of the dialogue, the Trust agreed with Carillion that the proposals would incorporate a forward look at legislation and guidance and the Bidder would cover the impact of HTM and HBN changes into the PB stage.

RISK		MITIGATION
4.7 Incorrect cost of providing clinical services	The cost of providing clinical services may be different to the expected	The savings plan is based on specific plans and, given the opportunity for synergy savings as a result of centralisation of services, is robust. Overall savings as proportion of turnover is lower than that which has been achieved over each of the last three years. Clinical re-design group in place with senior executive and clinical representation. The group oversees the implementation of the new model. Where possible savings plans as a result of clinical re-design are being brought forward. Mitigation options include halving internal discretionary investment in service improvement. Further detail is provided in section 10.4.
4.13 Estimated Cost of restructuring workforce providing services under the contract is incorrect	The productivity targets cannot be met and the building environment will not be appropriate to a partially implemented model.	This is the key risk in the Project and as such will require the most attention. The Trust has a Service Redesign Group charged with overseeing the implementation of the new model. The group has wide representation from within the Trust and will be serviced and supported by dedicated staff. This group is a composite team pulling together the Trust operational here and now processes with the longer term objectives. The Group reports directly to the Executive team which focuses on this issue as a main agenda item. This allows the programme of change to have CEO level focus during a period of organisational restructure that could potentially refocus senior management attention elsewhere over the next few years. In addition the BHSP Project team will support the process with learning events and networking into the other programmes of development within BHSP and with other programmes around the country.

RISK		MITIGATION
5.4 Changes in the volume of demand for patient services	There is a risk that the volume of demand for health care will change because of change in the catchments area	The Trust has worked closely with its main commissioners throughout the project and resource assumptions have been agreed with the health authorities. The preferred PFI solution is highly flexible and able to accommodate either an increase or a reduction in the scale of service provision as well as changes in the Trust's strategic direction. The Trust will continue to monitor activity routinely to identify variances from both contracted and projected levels. The impact of lower growth could be mitigated by taking out the resultant spare capacity resulting in £1m per annum.
10.1 Failure to obtain planning permission	Insufficient time to complete 1:50 reviews with all key users, leading to potential problems with finished design and planning application delaying overall programme. Reduces risk included in P3.	The Trust has engaged the Local Authorities at an early stage and has received commitment to allocating dedicated manpower to the application.
10.2 Delayed planning approval	The programme is delayed land there are problems managing Bidder and Project costs with an extended approval timetable.	The Trust secured a letter of support from the Council for Carillion's proposals during the dialogue phase. As part of this process, the trust agreed an outline timetable.

The Trust acknowledges that the degree of identified risk, as well as potential risks that have not yet been identified, will change during the course of the project. The Trust's risk evaluation and management process will be an evolving process to ensure that potential future and additional risks are recognised, monitored and minimised wherever possible.

15.3 INCORPORATING RISK IN THE FINANCIAL ASSESSMENT

The cost of residual risks to the public sector and the private sector has been assessed. The equivalent NPV of these risks is summarised in Table 15.3i below. The detailed assessment is included in Appendix 15.3, which includes the allocation of each risk between the public and private sectors and the Trust planned mitigation strategy.

Table 15.3i Value of residual risks to the public sector and the private sector

Category Of Risks	NPV of risk to Public Sector £k pa	NPV of risk to Private Sector £k pa	Total NPV of risk £k pa
Design Risks	2,720	16,391	19,112
Construction and Development Risks	756	16,685	17,441
Subtotal	**3,476**	**33,077**	**36,553**
Availability and Performance Risks	6,654	23,459	30,113
Operating Cost Risks	26,039	4,718	30,757
Variability of Revenue Risks	37,958	206	38,165
Technology and Obsolesence Risks	0	8,427	8,427
Control Risks	0	0	0
Residual Value Risks	0	567	567
Other Project Risks	1,060	656	1,716
Subtotal	**71,712**	**38,034**	**109,746**
Total Risks	**75,188**	**71,111**	**146,299**

The Total NPV of PFI cost risks falling to the Trust is £75,188k, of this £3476k is related to the design and construction cost risks, resulting in an Expected Annual Cost (EAC) of £167k per annum. This is broadly consistent with the £260k risk provision in the total planned UP for the scheme, as shown in Table 10.3.2i.

The remaining £71,712k of NPV relates to availability and performance, operating cost and variability of revenue risks resulting in an Expected Annual Cost (EAC) of £3,441k per annum.
The impact of these and other risks on the Trust's I&E position is modelled in the sensitivity analysis in section 10.4. This section also sets out the Trust's mitigation plans for responding to a situation where these risks have materialised and other changes need to be made in response for the Trust's financial position to be maintained.

The table also shows that significant risk is being transferred to the private sector.

SECTION 16: POST PROJECT EVALUATION

16.1 INTRODUCTION

This section sets out the process and framework for completing Post Project Evaluation (PPE). This evaluation will be consistent with relevant good practice such as the requirements of the Department of Health's Good Practice Guide 'Learning Lessons from Post Project Evaluation' (January 2002).

16.2 PHASES OF THE EVALUATION PROCESS

The purpose of the Post Project Evaluation (PPE) exercise is to improve project appraisal, design, management and implementation. The PPE process is divided into four main phases:

Stage 1: Plan and cost the scope of the PPE work at the project appraisal stage. This will be summarised in an Evaluation Plan.

Stage 2: Monitor the progress of the project and the measurement indicators set out in the PPE framework. This includes setting up the base line assessment and evaluating the project outputs upon completion and implementation.

Stage 3: Review the outcomes of the project as it moves into the operational phase, usually six to 12 months after the facility has been commissioned. This will include the analysis of any significant changes relative to the original assumptions and the ongoing recording and monitoring of the measurement indicators.

Stage 4: Follow post-project evaluation to assess longer-term service outcomes two years after the facility has been commissioned.

This business case sets out stage 1 of the PPE process and creates the framework within which the evaluation will take place. The detailed evaluation plan will be developed prior to build completion.

PPE evaluation for stages 2 to 4 will be developed as the project progresses.

16.3 PROCESS AND FRAMEWORK

The formal evaluation will be based on the tabulated schedule below that will identify the performance areas, monitoring arrangements and some assumptions and risks.

The PPE will be arranged by NBT and will involve all relevant stakeholders particularly staff and appropriate partner agencies.

The overall benefits and objectives of the project have been evaluated and assessed for suitable measurement indicators which will reveal the critical success or failure of the scheme to meet its objectives. These have been set out in the following table with a description of the performance indicators, the method of measurement and any assumptions and risks which are relevant.

Table 16.3 Project Evaluation Framework

Objectives	Performance Indicators	Method of Measurement	Assumptions and Risks
Provide care closer to the patient's home where clinically appropriate	• Increase in services provided in community facilities • Reduced travel time for patients to access services • Reduced waiting times in ED • Patient satisfaction	• Monitor availability of community services • Travel and access survey • Waiting times assessment • Patient satisfaction survey	• No fundamental change in NHS policy • No change in funding levels • Increased competition
Provide effective local health services by harmonising primary care, social care and local hospital services to prevent inefficiencies, gaps in provision, delays and duplication of effort	• Pan-organisational arrangements support effective patient pathways. • Communications between organisations are effective	• Monitor through performance targets and service delivery costs (bed blockers etc) • Patient satisfaction survey	• Ongoing change in service requirements •
Develop specialist services and networks for a wider group of patients within the NHS, providing high quality and faster access to specialist opinion with care provided closer to home where appropriate;	• Number and type of specialist services developed to meet need • Services meet national policy requirements • Good outcomes • Low readmission rates	• Monitor availability of specialist services • Assess services against national policy • Readmission rates • Cost per case against tariff	• Shift in referral patterns through high quality service and facilities • Improved facilities successful in attracting clinical staff
Provide a vibrant learning and education culture that benefits clinical services;	• Integrated teaching and education facilities • Development supports learning and education	• Provision of suitable teaching and training areas • Monitoring increase in teaching and research carried out within NBT	• Change in Education & Training needs within the City and SW Region

Objectives	Performance Indicators	Method of Measurement	Assumptions and Risks
Improve the efficiency and value for money of services	• Re-provide services at or below national tariff • Improve space utilisation within the estate • Reduction in operating costs • Reduction in maintenance costs • Changes in risk allocation • Estates backlog maintenance reduced • Knife to skin ratios • Productivity rates • Length of stay	• Monitor through performance targets (increase knife to skin, increase cases per list, outpatients per clinic etc) • Service level and patient level costing • Operating and maintenance costs • Monitor inpatient length of stay	• Change in National & Community Tariffs
Enable local services to respond to National Initiatives including Patient Choice; 'Creating a Patient-Led NHS'; High quality patient care as defined in National Service Frameworks and new targets and aspirations as described by the Darzi reviews	• Extend choice and improve standards in all services. • Mortality rates • Reduce waiting times for elective and emergency care • High degree of user involvement in service development	• Monitor through performance targets and service costs incl. waiting times, mortality rates, Koerner returns • Staff surveys • Patient surveys	• No fundamental changes in national & local policy • No change in demand assumptions • No change in funding levels • Increased competition
Put an end to cramped, overcrowded wards, providing high quality facilities which support care and recovery, and ensure privacy for patients	• Provision of modern facilities which meet current standards • Achievement of consumerism targets incl. single sex accommodation • Reduction in infection rates • Reduction in incident reporting • Functional relationships between services are working effectively	• Monitor through staff & patient satisfaction surveys • Compliance with all current planning and technical guidance • Monitor infection rates • Incident logs	• Ongoing change in compliance requirements

Objectives	Performance Indicators	Method of Measurement	Assumptions and Risks
Provide a greatly improved working environment and facilities for staff	• Retention, turnover and sickness rates reduced • Staff satisfaction	• Raised staff morale monitored through staff satisfaction surveys, retention levels and reductions in sickness and absence • Compliance with all current planning and technical guidance	• Ongoing change in compliance requirements • Improved facilities successful in attracting clinical staff
Strategic Design	• Achievement of Design Brief requirements including flexible design, clear welcoming urban site, connection of the inside to the outside, excellent finishes	• Design Group review against Design Brief objectives	• No change to design criteria
Sustainable development	• Energy consumption figures achieved against target • Percentage landfill avoidance • Percentage use of natural material • Carbon emissions levels against target	• ERIC returns • Contractor reports and performance monitoring	• No change in environmental targets
Project Programme			
Build completed on time	• Project meets milestones	• Assess progress against project plan • Number of delay events	• No change in overall design brief
Project completed within budget	• Costs within budget	• Cost returns	• Stable financial market

The above project framework will form the basis of the PPE process which will start with the assessment of the base line conditions and performance of the current facilities during the detailed design and the construction phases.

16.4 THE EVALUATION TEAM

A PPE Steering Group will be established under the Project Board, chaired by the Project Director. The role of the Project Director or delegated officer will be to manage and coordinate the PPE process and report the findings to the Project Board and the Trust Board. The Project Director will delegate the responsibility for the collection and analysis of the various data sets within the framework measurement indicators to appropriate members of staff. A project manager will be appointed to manage the overall PPE process.

16.4.1 PPE Steering Group

Chaired by the Project Director or a nominated officer, the Steering Group will comprise staff involved in the development of the scheme, staff involved in the operational phase of the scheme, data set monitoring staff, technical advisers and representatives of major stakeholders. Public involvement will be an important part of the evaluation.

The Project manager will be responsible for ensuring that agreed actions arising from the evaluation are followed up.

The Trust Board is responsible for approving the evaluation outcomes and follow-up action report.

The approved action report will be disseminated to the Project Team, Project Board, Management Team and other relevant stakeholders. A 'lessons learned' report will also be developed and disseminated across the Trust and relevant stakeholders.

16.5 RESOURCES

The post project evaluation will be resourced by existing project team members whose costs are covered by the project budget. A resource schedule will be developed as part of the next stages of the project evaluation.

16.6 TIMESCALES

The timescales for the Post Project Evaluation are set out in the table below:

Stage	Timescale	Scope
Initial evaluation	One year after hospital opening	All project objectives
Follow-up evaluation of service outcomes	Two years after hospital opening	All project objectives
Ongoing	Trust services – Every three years after follow-up evaluation Contractor services – as set out in contract	Project objectives, retained estate assessments Building running costs, maintenance costs, energy consumption and building effectiveness