North Bristol and South Gloucestershire Healthcare Services Development Programme

Outline Business Case

JANUARY 2006

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The Department of Health's Generic Economic Model is available on request.

EXECUTIVE SUMMARY

1. INTRODUCTION

This Outline Business Case (OBC) proposes to rationalise acute services at Southmead and Frenchay hospitals on to a single acute site at Southmead and to develop a supporting infrastructure of community services. 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 a Strategic Outline Case (SOC) which was prepared by North Bristol Trust, South Gloucestershire PCT and Bristol North PCT and was approved by the Department of Health in July 2004.

This OBC sets out an intention to create:

- A single acute hospital on the Southmead site containing 947 beds integrated with a 28bed community hospital on the Southmead hospital site;
- An 84 bed community hospital on the Frenchay site

The aim is to open these facilities in 2013.

2. RATIONALE

The reason for developing these proposals is that the local health services in Bristol, North Somerset and South Gloucestershire are facing a number of problems that are compromising the quality of patient care and leading to unnecessary cost pressures within local services.

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 4 separate A&E and acute receiving centres are not sustainable in the long term and a clear intention to focus down to 3 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 Information 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 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;
- **Improvement in access to services for patients** and in particular the need to achieve a maximum 18 week 'end to end' wait by 2008;
- **Improvement in overall efficiency of services** as defined by the NHS' 10 High Impact changes
- **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 with 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 South Gloucestershire in Yate, Thornbury and Kingswood.
- New community healthcare facilities in Bristol (in 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 either the Frenchay or Southmead site with a community hospital on both sites.

Between September and December 2004, the local NHS launched a three month period of public engagement on the Bristol Health Services Plan.

Prior to consultation and throughout the process the local NHS worked with the Joint Health Scrutiny Committee, comprising members from the Councils principally affected by the proposals – Bristol City, South Gloucestershire and North Somerset.

A Joint Decision Making Committee of local organisations met on 14 March 2005 to consider the recommendations as set out in this report.

The decision of the Committee was that the Southmead site should be selected as the location for the major acute hospital for North Bristol and South Gloucestershire. In particular this was because:

- Southmead has 50% more developable land then Frenchay, and so is more flexible, will allow for better hospital buildings and enable an easier implementation.
- Southmead is more important in terms of its impact on socio-economically deprived areas.
- The Frenchay development would cost £1.9m more each year to run than the Southmead development.

At that meeting the Strategic Health Authority requested further work to be completed by the Bristol Health Services Plan Steering Group in advance of OBC submissions. This work included analyses of capacity, affordability and contingencies. The Strategic Health Authority also asked that 'the travel and access implications of each project are fully assessed in the Outline Business Cases'.

On 20th October 2005, the Bristol Health Services Plan Steering Group presented this work to the Strategic Health Authority and provided progress reports on the following:

- Model of care for future service provision
- Planning assumptions of PCT commissioners underpinning the plans
- Phasing of the capital schemes within the Bristol Health services Plan
- Affordability and contingency arrangements of the plans
- Travel and access issues
- Social Services issues raised by the Joint Health Scrutiny Committee Report

In particular the BHSP Steering Group highlighted the following issues in the affordability assessment which are directly relevant to this OBC:

i) A savings requirement of £13.5m for North Bristol Trust was not unreasonable in light of their scope for efficiency and redesign benefits realisation.

ii) In their outline business case North Bristol Trust should set out the reasons why it was not appropriate to phase their £420m scheme.

iii) The assumption by Trusts of a 1.5% pa growth in income from activity increases was appropriate.

iv) The assumption by Trusts of a transfer to the independent sector of activity valued at £20m in Bristol, North Somerset and South Gloucestershire was appropriate.

v) Business cases should be prepared taking account of the potential use of vacant beds at Weston Area Healthcare Trust.

In response, the Strategic Health Authority welcomed the progress made by the Bristol Health Services Plan and supported the local NHS planned model of care (The minute recording the recommendations is included in annexe A). As a result, North Bristol Trust, South Gloucestershire PCT and Bristol North PCT proceeded to prepare an OBC to consider the Southmead and Frenchay developments in more detail.

Following on from the decision making process, and in the context of concerns expressed by local residents about the site of the major acute hospital, the South Gloucestershire Health Scrutiny Sub-Committee concluded that it would write to the Secretary of State for Health to request that she should refer the decision on the selection of the major acute hospital site to the Independent Reconfiguration Panel.

On October 21st 2005 Lord Warner responded on behalf of the Secretary of State and concluded that he could see no reason to refer the decision to the Independent Reconfiguration Panel.

4. DEVELOPMENT OF OBC AND OPTION APPRAISAL

4.1 Objectives and Benefits of Investment

In line with the outcomes of the BHSP Decision Making Committee on 14th March 2005 and taking account of the outcome of the Strategic Health Authority meeting on 20th October 2005 the proposals in this case aim to introduce a far more systematic approach to care in North Bristol and South Gloucestershire, as part of the overall Bristol Health Services Plan. These 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 are the following objectives:

- 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 are:

- All patients will be assessed and treated within 18weeks;
- 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/m3;
- 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.

4.2 Clinical Model and Strategy

The proposed changes to the hospital structures and the intended benefits outlined above will 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.

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.

4.3 Shortlist of Options

To respond to the outcomes of the BHSP consultation, the local NHS objectives and to house the new model of care, the Trusts considered options for the development of a major new acute hospital and community hospital on the Southmead site, and options for the development of a community hospital on the Frenchay site. The options are as follows:

Do Minimum	▪ No reconfiguration of service ▪ No community hospital at Southmead ▪ No Community Hospital at Frenchay ▪ Estate at Southmead and Frenchay Hospitals upgraded to Condition B ▪ Capital expenditure limited to backlog maintenance
Southmead New Build South	▪ A new build acute hospital and integrated community hospital, concentrated to the South of the Southmead site, adjacent to the Avon Orthopaedic Centre. ▪ Maximise use of category A/B estate particularly Elgar House and Avon Orthopaedic Centre. ▪ Treatment centre services based in existing accommodation within the Avon Orthopaedic Centre.
Southmead New Build North	▪ A new build acute hospital and integrated community hospital, concentrated to the North of the Southmead site, adjacent to Elgar House. ▪ Maximise use of category A/B estate particularly Elgar House and Avon Orthopaedic Centre. ▪ Treatment centre services based in existing accommodation within the Avon Orthopaedic Centre.
Frenchay New Build	▪ Development of a new community hospital of the Frenchay site. ▪ Creates a health campus to the North of the site.
Frenchay Refurbish	▪ Refurbishment of the good quality estate in Phase One, to create a community hospital. ▪ Maximise use of existing good quality, category A/B estate at Frenchay.

These options were the subject of both non-financial and financial appraisal. The non-financial appraisal comprised of clear weighted benefit criteria, comprehensive stakeholder involvement and weighted benefit scores for each option. A series of events were held to ensure the involvement of public, staff and clinicians in the process and at meetings of the North Bristol and South Gloucestershire Cluster Board, the OBC Public Involvement Group and of NBT clinicians. The options were scored against the following weighted non-financial benefits.

4.4 Non Financial Benefit Appraisal

Enables the delivery of the clinical and service models	▪ Quality and safety of care for patients ▪ Promotes clinical excellence ▪ Allows efficient and effective delivery of support services ▪ Enables high quality research and education ▪ Allows delivery of national and local strategic aims & targets
Flexible and Future Proof	▪ Adaptable to future changes ▪ Logical extension space e.g. for women's services ▪ Able to be used for a variety of purposes ▪ Demonstrates effective use of assets across the health community
Provides an excellent environment for patients and staff	▪ Feel good factor ▪ Provides good internal design ▪ Provides good external design ▪ Safe and easy access for staff and patients (including roads and car parks) ▪ Encourages staff recruitment and retention ▪ Meets NHS building standards, especially space ▪ Supports protection of the environment
Civic presence	▪ Noticeable public building ▪ Should complement the neighbourhood ▪ Supports regeneration
Practicality	▪ Ability to keep existing services running during construction period ▪ Ability to procure services sensibly and cost effectively ▪ Has public and staff support ▪ Likely to gain planning approval

The conclusions of the non-financial appraisal were:

Table 1 – Outcomes of Non-Financial Appraisal

Option	Weighted Benefit Score
Do minimum	271
Southmead New Build South	793
Southmead New Build North	540
Frenchay New Build	793
Frenchay Refurbishment	600

4.5. Financial Appraisal

The economic appraisal concluded that of the two Southmead options, the Southmead South option has both the lowest net present cost and the lowest cost per benefit point, and is hence the preferred option.

In the case of the Frenchay options, the Frenchay Refurbishment option has the lowest net present cost, but the Frenchay New Build option has the lowest cost per benefit point. This indicates that if the Trust was able to afford the additional cost of the new build option, it would provide additional benefits which would be more than commensurate with the additional cost. The key issue in deciding whether it can opt for the new build option is whether it can afford the additional cost.

The annual revenue costs (including capital charges) of the two options in the first full year of operation are compared below:-

Table 2 - Annual revenue cost comparison of the Frenchay options

	Annual revenue cost	
	FHY Refurb £000	FHY New Build £000
Building capital charges	3,717	4,697
Land capital charges	616	722
Premises running costs	1,086	1,098
Other costs	6,731	6,518
Total	12,150	13,035

This indicates that the annual revenue cost of the new build option exceeds that of the refurbishment option by £0.9m per annum. This is a significant additional annual cost, which could only be afforded by securing additional savings. The viability of this needs to be considered in the context of the BHSP affordability assessment, which concluded that the existing savings plans are already high risk and that maximum use should be made of existing good quality buildings. The capital cost of the Frenchay New Build option also exceeds that of the Frenchay Refurbishment option by £12.2m (New Build £52.2 m excluding VAT; Refurbishment £40.0m excluding VAT), which potentially would result in greater capital affordability difficulties.

4.6 Conclusion of the Option Appraisal Process

The Southmead South option was clearly preferable to Southmead North in terms of financial and non-financial benefits.

In light of the scale of the additional revenue and capital costs of the new build option at Frenchay, and given the particular concern to ensure that the OBC proposals as part of the wider BHSP plans are affordable, the refurbishment option is proposed as the preferred option for the Frenchay site. The scheme is timetabled for completion in 2013, and the Trust and PCTs will have the opportunity to review the affordability of a new build option as detailed planning for the scheme develops.

A combination of the Southmead South and Frenchay Refurbishment options provides significantly better value for money than the do minimum option.

5. THE PREFERRED OPTION

As a result of the option appraisal exercise, the Trusts' propose an investment of £374m in the following:

- A 28 bed community hospital (5,000m2) on the Southmead sites integrated with;
- An 802 bed acute hospital (105,000m2) that will combine the specialist and acute services currently provided on the Frenchay and Southmead sites into a single hospital on the Southmead site, (708 new build beds and 94 refurbished beds). These beds will be in addition to 145 retained acute beds at Southmead (mainly for women's services).

Following approval of the OBC, the Trusts intend to procure the Southmead scheme through the Private Finance Initiative.

The Trusts also propose to develop:

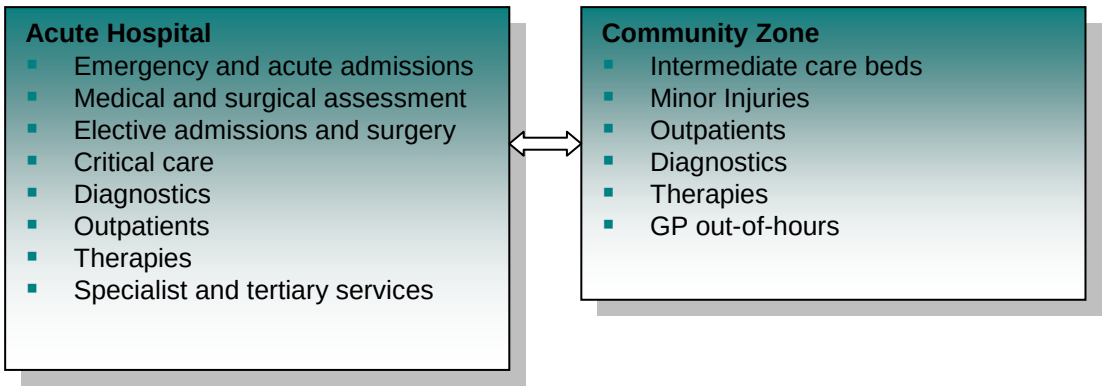
- An 84 bed community hospital, (13,000m2) on the Frenchay site.

Following approval of this OBC, the Trusts propose to develop the scope of the scheme and the preferred procurement route. The Trusts propose to return to the SHA with more details before proceeding to procurement in 2008.

Both the Southmead and Frenchay schemes are planned to open in 2013.

5.1 Southmead Site

The services to be included in the acute and community hospital at Southmead are set out in the figure below:



The new acute hospital at Southmead will contain 947 beds, 23 theatres, a comprehensive imaging service and full diagnostic facilities. The community facilities will be integrated and will comprise elements of the ambulatory, emergency and inpatient zones. The hospital will have a new service model operating within the following zones:

- Inpatient Zone.

- Emergency Care Zone.
- Ambulatory Care Zone.
- Core Clinical Zone.
- Support Zone.
- Treatment Centre.

Within the Inpatient Zone there will be 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. Inpatient beds will be provided in units of 32 beds, clustered into groups of 3 units to provide 96 bed clusters. 75% of the inpatient beds will be provided in single rooms, the remainder will be in 4 bedded bays.

The Core Clinical Zone will provide the high quality complex clinical support services to inpatients, outpatients, and community patients. This will include; imaging including 3 MRI scanners, 3 CT scanners, 18 operating theatres, 4 endoscopy rooms, pharmacy, and diagnostic services.

The Southmead Community Hospital will be the local hospital for patients in the North West part of Bristol and the Southern 'arc' of South Gloucestershire. Its core catchment population will be around 150,000. It will support the proposed clinical model of care by acting as a 'hub' to other 'spoke' facilities across the defined catchment area. Links will also exist with other community facilities, outside its core catchment areas, such as the proposed Central and East Bristol Community Health Care Centre.

The treatment centre will provide 38 beds and five theatres and will provide for day and short stay surgery and some diagnostic facilities.

5.2 Phasing of the Southmead Site Development

It is proposed to minimise the number of phases in the development of the Southmead scheme, and a comprehensive enabling programme is an important factor in this approach. The PCTs and NBT propose to prepare the potential development site in advance of the PFI scheme through this enabling programme, which will increase certainty and therefore attractiveness of the scheme to PFI and shorten timescales by parallel running the procurement and the enabling works.

In response to AGW Strategic Health Authority's question about whether a phased approach to the development had been considered, the Trusts have explored the issue of phasing in some depth, and have concluded that the number of phases should be minimised due to:

- The cost of multiple phase construction.
- The cost of procurement.
- The constraints of the Southmead site with the current services located in the centre of the site, driving potential developments to the edges of the site.
- Uncertainty of procurement and methodology change.

5.3 Frenchay Site

The Frenchay site will house the Frenchay Community Hospital, together with inpatient beds for older people with a mental illness, a satellite renal dialysis unit, and the Brain Injury Rehabilitation Unit and the Macmillan Unit in retained third party accommodation. The Frenchay Community Hospital will provide services for a population of approximately 150,000, and will be complemented by community health centres in Yate, Kingswood, Central & East Bristol and the community hospital in Thornbury. Across the Frenchay site the following services will be provided:

Community Hospital:

- Community inpatient beds
- Outpatient services
- Minor injuries unit
- GP Out of Hours
- Diagnostics – x-ray and ultrasound
- Rehabilitation and therapy services
- Local anaesthesia day cases

Other Services:

- Satellite renal dialysis
- Inpatient facilities for older people with a mental illness.
- The Macmillan Unit and the Bristol Brain Injury Rehabilitation Unit

6. ACTIVITY AND CAPACITY

Projections of demand for healthcare in 2013/14 are based in the first instance on historical trends adjusted on the basis of local clinical knowledge. These projections are then adjusted to take account of the impact of increasing the availability of alternatives to care in an acute hospital.

Table 3 below shows a summary of the 2013/14 projections built up in this way.

Table 3 – Growth in inpatient and outpatient demand 2004/05 to 2013/14

	2004-05 actual activity	Adjusted historical growth	Impact of alternatives to acute care	2013-14 projected activity before transfers
Elective IP/DC	50,807	6,594	-772	56,629
Non-elective IP	61,601	13,467	-8,280	66,788
Total IP activity	**112,408**	**20,061**	**-9,052**	**123,417**
New OP appts	90,529	26,154	-17,517	99,166
Follow-up OP appts	224,168	78,613	-37,954	264,827
Total OP appts	**314,697**	**104,767**	**-55,471**	**363,993**

The overall planned growth in inpatients and daycases as set out in Table 3 above is shown in percentage terms in Table 4 below:

Table 4 – Growth in inpatients and daycases – percentages

	Annual Growth Per Year %	Cumulative Growth 2004/05 – 2013/14 %
Historic projected growth (adjusted for local clinical knowledge)	1.9	17.9
Impact of alternatives to acute care (demand management)	(0.9)	(8.1)
Resulting planned growth	**1.0**	**9.8**

The resulting planned growth in activity (9.8%) is greater than the projected growth in age weighted population over the same period (8.9%). Essentially the initiatives to increase the availability of alternatives to acute care, and therefore to manage demand, are projected to reduce the historically high level of activity growth and bring it more in line with underlying population growth.

Having established the total demand, assessments have then been made of planned service transfers to and from other organisations within the BHSP. These are in line with the BHSP Steering Group's report to the SHA on the Bristol Health Services Plan of October 2005. These are shown in Table 5 below:

Table 5: Demand and Service Transfers

	Elective Inpatients & Daycases FCEs	Non-Elective Inpatients FCEs	Total Outpatients Attendances
TOTAL DEMAND	56,629	66,788	363,993
BHSP service transfers	-202	-3,683	-2,027
Transfers to community settings	0	0	-93,310
Transfers to Independent Sector	-8,010	0	-27,995
Effect of acute flows	-826	-4,534	0
Change in clinical practice	0	0	-16,403
2013/14 projected activity	**47,591**	**58,571**	**224,258**
2013/14 activity in Community settings	0	0	93,310
2013/14 activity in acute settings	47,591	58,571	224,258

The capacity required in the new acute and community hospital facilities has been assessed based on the activity projections as described above.

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 2004/05 actuals and with case mix-adjusted benchmarks are show in Table 6 below.

Table 6: Performance Improvements

	2004-05	Benchmark	Benchmark	2013-14

	Actual	Upper Quartile	Upper Decile	Proposed
Non-elective lengths of stay (days)	6.3	4.6	3.9	4.1
Elective lengths of stay (days)	4.7	3.8	3.1	3.8
Daycase rates	60%	73%	82%	74%

The resultant bed requirement is 1230 in comparison with current beds of 1320. This is a decrease of 7% while overall activity is increasing by 9.8%. This represents an overall performance improvement of 18%. Due to the planned transfer described above, 171 beds are provided outside this business case, 155 in other Trusts (UBHT 120; Weston 35) and 16 in Independent Sector Treatment Centres (ISTCs). The beds provided in the new and existing facilities therefore total 1059, comprised of 947 acute beds, and 112 community beds.

Table 7: Changes in Beds

Changes in Bed Numbers	
Current beds in 2005/6	1320
Growth	286
Impact of alternatives to admission	(189)
Assumed increase in specialist work	30
Reduction in length of stay	(224)
Increase in daycase rates	(101)
Decrease in occupancy rates	108
Total beds required in 2013/14	**1230**
Location of Beds	
Southmead acute	947
Southmead Community	28
Frenchay Community	84
Transferred to other Trusts	155
Transferred to ISTCs	16
Total beds required in 2013/14	**1230**

7. CAPITAL COST AND AFFORDABILITY

In 2002/3 the Trust incurred a deficit of £44.6m, the largest in NHS history, and as a consequence of this combined with poor performance on access targets, became a zero star trust. Following a virtually complete change in Board membership, over the years 2003/4 to 2005/6 the Trust has achieved cumulative cost reductions of £48m and income and expenditure surpluses in each financial year. It has been held up by the National Audit Office as a case study of good practice in financial recovery. Over the same period, performance against access targets has also significantly improved. The Trust now has two stars and has been invited to apply for FT status. The improvement in management capability and the cultural changes that have been brought about in the course of this major turnaround in performance puts the Trust in an excellent position to deliver on the further performance improvements needed in the future, both those leading up to the planned new hospital development, and those needed in order to make the new hospital development affordable.

The cumulative savings already achieved over 2003/4 to 2005/6 equate to 13.1% of turnover, an average of 4.4% per annum. The savings required over 2006/7 and

2007/8 to complete financial recovery are estimated at 3.3% per annum, and the Trust has a financial recovery plan for achieving these savings. The plan has been assessed by the Strategic Health Authority as being of good quality and robust. The savings required to maintain breakeven from 2008/9 to 2012/13 are estimated at 2.3 % per annum. The Trust has outline plans for achieving these savings. Taking account of its experience and its performance in achieving very high levels of savings over the last three years, the Trust believes that it has the management capability to complete its financial recovery and maintain financial balance through to 2013 when the new hospital is planned to open.

The proposed Southmead South development is planned to be completed by 2013/14 at a capital cost of £374m (MIPS 445). An assessment of the preferred procurement route for this capital investment has been undertaken. This compares PFI with conventional procurement, providing a value for money analysis and an assessment of the competitive interest in the project and the market capacity to bid and deliver the project effectively. The assessment concludes that PFI is the preferred procurement route. This excludes enabling costs, as the key enabling works are planned to be completed before the PFI build begins in 2008. It does include an element of the equipment requirements. The resulting split of the total capital cost between the PFI financed and the publicly financed elements is shown in Table 8 below, indicating a requirement for PFI financing of £336m, and public capital funding of £38m.

Table 8: Capital cost of the proposed Southmead South scheme

	PFI Financed	Public Financing	Total
	£m	£m	£m
New build	294	0	294
Refurbishment	18	0	18
Enabling	5	26	31
Equipment	19	11	30
Capitalised project costs	0	1	1
TOTAL excluding VAT on PFI	**336**	**38**	**374**

The capital cost of the Frenchay Community Hospital is projected at £46m (MIPS 445). The procurement route for the Frenchay scheme will be assessed separately at a later stage when formal approval to proceed with that scheme is sought, but for the purposes of the affordability analysis in this OBC, it is assumed to be publicly funded.

A forward capital plan has been drawn up showing how the £38m public funding required for the proposed Southmead development, together with all other NBT and BHSP strategic capital developments and also replacement and lifecycle requirements, can be funded under the new capital regime. This capital plan also includes provision for the £46m Frenchay scheme cost, although formal approval for that investment to proceed is not being sought in this business case. The plan shows that the total requirement for public capital can be met on the basis that costs of strategic schemes falling in 2006/7 are met from SHA strategic capital, together with 2007/8 costs of strategic schemes already approved (e.g. Cardiac), but that all other costs from 2007/8 are met from a combination of depreciation funds, capital receipts from the sale of part of the Frenchay site, and prudential borrowing within the Trust's likely borrowing limit. The specific SHA capital funding requested in respect of this Outline Business Case is £9.3m for PFI enabling costs in 2006/7.

Table 9 below shows the revenue cost of the planned capital investment, and the means by which that revenue cost will be funded. The table includes the revenue cost of both the Southmead and the Frenchay developments.

Table 9: Summary Affordability Statement

APPLICATION OF FUNDING		
Revenue cost impact of capital investment:		
	£m	£m
Southmead:		
Unitary payment (including estates maintenance)	36.4	
Less capitalisation of unitary payment	-3.6	
Capital charges on publicly funded capital expenditure	1.8	
Other premises costs	7.2	
Sub total Southmead development		41.8
Frenchay:		
Capital charges on publicly financed capital expenditure	3.4	
Premises costs	1.1	
Sub total Frenchay		4.5
TOTAL APPLICATION OF FUNDING		46.3

SOURCES OF FUNDING	
Release of existing capital charges from demolition/revaluation of existing buildings	12.3
Release of existing premises costs from demolition of existing buildings	11.7
Additional third party income	0.7
Savings generated over 2008/09 to 2012/13	5.3
Operating cost savings only achievable from redevelopment from 2013/14	14.8
Net surplus resulting from net activity increases generated over 2008/9 to 2013/14	1.5
TOTAL SOURCES OF FUNDING	46.3

Table 9 shows that the projected gross revenue consequence of the planned capital investment is £46.3m per annum, and then that this gross cost is covered by £46.3m of efficiency savings and other cost reductions or income. Therefore, the revenue consequences of the proposed capital investment proposed are affordable.

Key points to note regarding individual elements of this affordability statement are as follows:-

- The PFI unitary payment of £36.4m has been calculated in conjunction with NBT's financial advisers using a realistic shadow financial model.
- The £5.3m saving shown as being generated over 2008/9 to 2012/13 is included in the Trust's overall financial plan for the period leading up to 2012/13. This is because this saving would be necessary even if the proposed redevelopment scheme did not proceed, as capital investment with this revenue cost would still be needed to improve the existing facilities.
- The £14.8m efficiency savings that are only achievable as a consequence of the proposed investment include £6.0m from bed reductions resulting from performance improvements, and £8.8m from savings related to larger wards, synergy savings on moving to a single acute site and improved departmental adjacencies and design.
- The basis of the £1.5m net surplus from activity changes is shown in Table 10.

Table 10: Summary of income and expenditure movements relating to projected changes in activity from 2008/9 to 2013/14

	Income Changes £m	Expenditure Changes £m	Net change £m

BNSSG PCT growth 2008/9 to 2013/14	26.0	21.2	4.8
Other PCT growth 2008/9 to 2013/14	10	8.2	1.8
Reduced excess bed-days	(2.5)	(1.9)	(0.6)
Service transfers	(28.1)	(23.6)	(4.5)
TOTAL	5.4	3.9	1.5

The BNSSG PCT income growth from 2008/9 to 2013/14 is based on an overall 1.4% per annum increase excluding renal and HIV services and beta interferon prescribing, and corresponds with PCTs commissioning plans as agreed in the BHSP affordability exercise. The £28.1m income reduction from service transfers to other acute trusts, ISTCs and new community based units is also consistent with the plans of other providers within the BHSP affordability exercise. The £2.5m credit from reduced excess bed days was not fully incorporated into the BHSP exercise and can therefore further assist PCTs in financing the necessary expansion of community services. The income assumptions within this OBC are therefore consistent with those of PCTs and of other providers based on the BHSP affordability exercise. The expenditure changes consequent on the activity changes have been specifically assessed where possible, and otherwise are assumed to be equal to 75% of the income change.

Further support for the affordability of the proposed capital investment comes from analysis of two key indicators used by the Private Finance Unit and by PFI consortia to assess the affordability of major PFI schemes. The two indicators are shown in Table 11 below:-

Table 11: Indicators for the assessment of major PFI schemes affordability

	Proposed PFI Scheme
PFI Investment as a % of projected Trust turnover on completion	90%
PFI Unitary Payment as a % of projected Trust turnover on completion	8.75%

On both of these ratios, the proposed Southmead PFI scheme is towards the lower end of the range of existing PFI schemes nationally, providing a further demonstration of the affordability of the scheme.

The project management and procurement cost of the scheme is estimated at £7.7m. This can be met from NHS Bank project funding (£6.8m), together with capitalisation of appropriate project costs of the publicly funded elements of the scheme (£0.9m). Other transitional costs of the scheme, including costs of phasing in savings and cost releases after building completion, are projected at £35.4m. These can be met from NHS Bank transitional funding, which provides an overall 7.5% of the capital cost for post completion transitional costs.

The Trust has built up a detailed income and expenditure model showing the key income and expenditure changes over the period 2005/6 to 2017/18, including :-

- completion of the financial recovery plan to achieve recurrent balance
- changes in activity relating to growth and service transfers
- additional recurring and non-recurring costs relating to the redevelopment, and offsetting savings

This demonstrates that the preferred option can be afforded within the context of all the other changes affecting the Trust's income and expenditure, and not just in isolation.

Sensitivity analysis has been undertaken to assess the key variables affecting affordability, both to ensure that the overall affordability assessment is realistic in the key assumptions it makes, and to inform contingency plans. The probability and revenue cost impact of a range of possible favourable and unfavourable scenarios have been assessed, and are shown in Table 12 below.

Table 12 indicates that if all the unfavourable scenarios were to occur together, then the revenue affordability position would be £14.6m per annum in deficit. Similarly if all the favourable scenarios were to occur together, the affordability position would be £20.2m per annum in surplus. Neither of these scenarios are realistic. Taking account of the assessed probabilities of the alternative scenarios, the probability weighted position is a £1.8m per annum surplus. This is very small, and the realistic conclusion is that the risks of unfavourable and favourable variances from the base affordability plan in the OBC are evenly balanced.

Table 12: Probability assessment of risks to affordability

Base scenario and realistic alternative scenarios	Probability	Realistic unfavourable scenario Variance from plan £m p.a	Base plan in the OBC Variance from plan £m p.a	Realistic favourable scenario Variance from plan £m p.a	Probability weighted variance Variance from plan £m p.a
Clinical performance					
Base plan is performance close to upper decile	50%		0		0.0
10% better performance than planned	20%			5.5	1.1
10% worse performance than planned	30%	-5.5			-1.7
Savings not related to clinical performance					
Base plan is £8.9m per annum	50%		0		0.0
Savings 20% higher	40%			1.8	0.7
Savings 20% lower	10%	-1.8			-0.2
BNSSG activity growth					
Base plan is 1.42% annual growth	50%		0		0.0
Growth at 1.0% per annum	35%	-1.4			-0.5
Growth at 2.0% per annum	15%			1.9	0.3
Tariff uplift for revenue consequences of capital					
Base plan is zero uplift from 2008/9	50%		0		0.0
Tariff uplift of 0.3% per annum to 2013/14	50%			5.1	2.6
Capital cost					
Base plan is £420m (including Frenchay)	40%		0		0.0
Cost 10% higher at £462m	40%	-4.3			-1.7
Cost 10% lower at £378m	20%			4.3	0.9
Unitary Payment (excluding equipment)					
Base plan is 9.9% of construction cost	40%		0		0.0
9.4% of construction cost	40%			1.6	0.6
10.4% of construction cost	20%	-1.6			-0.3
		-14.6	0	20.2	1.8

8. WORKFORCE

The Model of Care summarised in Section 2 above sets out a new system of service provision in North Bristol and South Gloucestershire. This new system will require a change in focus from the workforce, and a reshaping of traditional departments into new teams. In addition to this, the future NHS workforce must be fit for purpose and

competent to deliver the future services and service standards set out in the NHS plan and the national service frameworks.

The plans for healthcare across North Bristol and South Gloucestershire are driven by the need to provide healthcare for the population in both new environments and through a new relationship between primary and secondary care. These plans require changes in the configuration of skills required in both primary and secondary care settings, and increased interchange of roles between both settings. The analysis of health needs and care-pathways will underpin the development of a workforce to deliver this care. The provision of more specialised healthcare in peoples' homes or integrated with primary care, challenges traditional staff roles and will provide opportunities for new staff roles.

The OBC sets out in detail how the key elements of the new service model will drive changes to the workforce within both primary care and secondary care and will also drive changes to education and training. Details are provided of workforce developments required to ensure appropriate staff are in place for the enhanced community and primary care services.

9. RISK MANAGEMENT

There are a number of critical risks that have been identified during the course of development of the OBC. 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:

RISK	RISK IMPACT	MITIGATION
Activity and Capacity		
Over-estimate of activity due to re-direction of work to the Independent Sector (IS).	Scheme is over-sized leading to waste of resource and financial problems-work to IS being lost at full price with the Trusts being unable to release the fixed cost of buildings.	The Trusts have reduced the size of the development to anticipate the loss of some work to the IS. The scheme has also been down-sized to reflect the potential flow of activity to UBHT and Weston. In addition, the Trusts will not build new facilities to house the remaining potential IS work but will concentrate this work in existing facilities in the Avon Orthopaedic Centre. This approach minimises investment in this type of workload and offers the opportunity for the Trusts to close the facilities down at some point if the workload was to be lost to the IS.

RISK	RISK IMPACT	MITIGATION
Over-estimate of growth assumptions with a worst-case scenario that only1/6 of the current predictions on growth actually occurs/is affordable.	The scheme is oversized as above.	The strategy is to retain beds on site where appropriate to allow a buffer. Of the 947 acute beds on the Southmead site, 239 beds will be in retained areas. These beds will mostly be maternity or gynaecology. The Trusts are developing a design brief to allow for retrenchment of the gynaecology and potentially low risk birth facilities (around 70 beds in total) into Elgar House with the displacement of the services in Elgar House into the main hospital. This provides the Trusts with the ability to use up to 60 beds of the new development with retained activity. The Trusts are also looking at potential mandatory variants in the procurement process to allow for: ▪ A scheme with 50 less beds. ▪ A scheme with some shell and core facilities The Trusts will also explore the potential to attract more tertiary work from outside BNSSG.
Change in profile of specialty configurations across Bristol leading to 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 80% translatable generic space with a relatively small percentage of inflexible space.
Over-estimate of performance, under-estimate of growth	The scheme is under-sized leading to the Trusts being unable to deal with the entire quantum of workload. The resulting 2 phase procurement represents poor Value for Money with PFI costs and preliminary costs being incurred twice.	The Frenchay scheme is not being procured through the PFI and leaves the option to flex the specification for the scheme to include more rehabilitation/ sub-acute facilities if there appears to be problems with overall capacity. In addition, the Southmead development will be specified to ensure ease of development and the site is sufficiently large to accommodate more facilities. Similarly, outline planning has been sought for a scheme larger than current requirements to help facilitate expansion if required. Furthermore the retention of the beds at the North of the site, including Elgar House gives the Trust some flexibility with regard to core clinical space,

RISK	RISK IMPACT	MITIGATION
Affordability		
Capital costs exceed budget	The Trust will pay more in Unitary Charges and this will potentially be unaffordable, particularly with the rigours of Payment-by-Results	The Trusts have included optimism bias in their capital costs to reflect the potential for under-estimation of capital cost. In addition, the Trusts have included a 10% contingency sum and have benchmarked the proposed capital cost per square metre against the last 5 schemes to reach Financial Close. The Trusts have also recruited an experienced Project team with a clear Project structure. The Trusts have incorporated realistic on-costs into the capital planning to reflect the potential for improved transport infrastructure, enabling works etc.
Projected Savings are not achieved .	The Trust will not be able to manage implications with the constraints of PbR.	The risk of not achieving savings targets related to performance (£6m) is addressed above. The risk of not achieving other savings targets (£7.9m) is relatively low taking account of the scale of the opportunity for synergies and improvements in service efficiency as a result of centralising on a single acute site. This is also a relatively low risk compared to the Trusts current recovery programme, which is achieving savings of £16m per annum within the constraints of twin-site working. However, to mitigate these risks, the Trust has made relatively conservative assumptions with regard to some costs including a high range UP assumption of 9.91% and a potentially low release of existing capital charges. The Trusts are also planning to pull forward savings plans and incorporate them into the current programme to give several years to achieve the targets. The Trust has a track record of achieving a very significant savings programme. The same project discipline will be applied to activity outlining the savings from this programme.
Overall Programme		
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 NBSG programme and as such will require the most attention. The Programme incorporates a Clinical Redesign Group charged with overseeing the implementation of the new model. The group will have representation from all the Trusts and will be serviced and supported by dedicated staff. This group will be a composite team pulling together the Trusts operational processes with the longer term objectives. The Group will report directly into the Cluster Board and this Board will focus on this issue as the main agenda item. This will allow 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 12months. In addition the BHSP Project team will

RISK	RISK IMPACT	MITIGATION
		support the process with learning events and networking into the other programmes of development within BHSP and with other programmes around the country.
Workforce		
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 Trusts are establishing a workforce group to target the actions required to implement the necessary changes. This group will put in place an implementation plan and methodology and will report in to the Project Board and Cluster Board.
The workforce changes required to meet the financial targets are not achieved	The savings are not achieved and the Trust cannot afford the investment	The workforce group will prioritise actions within the implementation plan to target early changes in the high impact areas. These actions will be agreed with the Trusts Finance Directors and incorporated into ISIP.

10. PROJECT TIMETABLE

The OBC programme is being developed as two key projects viz. the Southmead and the Frenchay site proposals. The programme is being developed in stages with the current stage leading up to the completion of the Outline Business Case and the publication of the OJEU notice for the Southmead development. The timetable to complete the OBC for the Frenchay and Southmead projects is set out in the table below. The table also shows the PFI timetable for the Southmead development, and the main milestones for the Frenchay development.

Milestone	Date
SOC approved by Secretary of State	July 2004
Joint decision making forum confirms Southmead as preferred site for acute hospital with community hospitals at Frenchay and Southmead	March 2005
OBC agreed by local health community	December 2005
Submission of OBC to Strategic Health Authority	January 2006
Outline planning committee resolution for Southmead received	30 March 2006
Approval of OBC	30 March 2006
Project: Southmead	
Submission of OJEU notice for Southmead	April 2006
Preferred partner identified	June 2007
Full planning approval received	May 2008
Full Business Case approved and Financial Close	June 2008
Building commences	August 2008
Building complete	September 2012
Commissioning complete	March 2013
Facilities ready for occupation	April 2013
Project: Frenchay	
Agree procurement route and re-issue OBC	April 2008
Secure outline planning approval	April 2009
Facilities ready for occupation	April 2013

11. CONCLUSION

The Trusts presenting the Outline Business Case; North Bristol NHS Trust, Bristol North PCT and South Gloucestershire PCT, are 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 2 sites to 1 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 (90%) and PFI unitary payment (8.75%) compared to the total turnover of the Trust;**
- **The track record of the new management team in North Bristol in turning around a substantial financial deficit and zero star rating into a successful 2star Trust meeting financial and non-financial targets and achieving dramatic performance improvements;**
- **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**

PART A: INTRODUCTION AND OVERVIEW

SECTION 1: INTRODUCTION

1.1 PURPOSE OF THE BUSINESS CASE

This Outline Business Case (OBC) proposes to rationalise acute services at Southmead and Frenchay hospitals on to a single acute site at Southmead and to develop a supporting infrastructure of community services. 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 a Strategic Outline Case (SOC) which was prepared by North Bristol Trust, South Gloucestershire PCT and Bristol North PCT and was approved by the Department of Health in July 2004.

This OBC sets out an intention to create:

- A single acute hospital on the Southmead site containing 947 beds integrated with a 28bed community hospital on the Southmead hospital site;

- An 84 bed community hospital on the Frenchay site

The aim is to open these facilities in 2013.

The main aims 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 around North Bristol and South Gloucestershire.
- Improve the efficiency and effectiveness of services by harmonising primary care, social care and local hospital services to prevent inefficiencies, gaps in provision, delays and duplication of effort.
- 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 OBC is a joint proposal by the three Trusts in the North Bristol and South Gloucestershire area:

- Bristol North PCT (BNPCT)
- South Gloucestershire PCT (SGPCT)
- North Bristol NHS Trust (NBT)

1.2 STRUCTURE OF THE BUSINESS CASE

The document has been structured into four key parts:

PART A – INTRODUCTION AND OVERVIEW

Section 1 – Introduction
Section 2 – Strategic Context

PART B –FUTURE SERVICE MODEL AND CASE FOR CHANGE

Section 3 – Model of Healthcare Provision
Section 4 – Activity and Capacity
Section 5 – Case for Change

PART C – OPTION APPRAISAL

Section 6 – Overview of Option Appraisal Process
Section 7 – Short-listing the Options
Section 8 – Benefits Appraisal
Section 9 – Financial Appraisal

PART D – PREFERRED OPTION

Section 10 – Description of Preferred Option
Section 11 – Financial Affordability
Section 12 – Workforce
Section 13 – Risk Management
Section 14 – Programme Management and Timetable
Section 15 - Preparing for Procurement

1.3 RECONCILIATION WITH THE ORIGINAL SOC

The development of the OBC follows approval of a Strategic Outline Case (SOC) for healthcare in NB&SG in July 2004. This OBC differs from the Strategic Outline Case submitted in July 2004 in the following key areas:

1.3.1 Scope of the OBC

The SOC encompassed plans for community facilities at Yate and Thornbury. These plans are being taken forward now as separate procurements, with complementary OBCs, and no longer fall within the scope of this OBC.

There are now plans to provide cardiac catheterisation services within the acute core of the scheme, whereas these services were excluded from the SOC.

The scheme has been restructured to ensure that elective and diagnostic services, which could potentially be provided by the Independent Sector are retained in existing facilities within the Avon Orthopaedic Centre on the Southmead site. This will allow the Trusts to scale the facilities to meet changes in the market without compromising the new build core of the hospital.

1.3.2 Activity

Since the SOC, a more detailed assessment of the likely changes in activity over the planning period has been undertaken. These assessments have covered the following areas:-

(a) Growth

The SOC included growth, from a base year of 2002/03 to 2012/13 of 6.4% cumulatively over the period (0.6% per annum), net of the impact of alternatives to acute care. A detailed analysis for the OBC has assessed growth from a base year of 2004/05 through to 2013/14 of 9.8% cumulatively over the period (1% per annum), net of the impact of alternatives to acute care. This is described in detail in Section 4.2.

(b) Transfers

The impact of transfers in three areas was not considered as part of the SOC. These are:

- Transfers as a result of acute flows.
- The impact of the Independent Sector.
- Interventional cardiology transferring form UBHT.

The consequences of these three transfers have now been taken into account in this business case and are therefore reflected in the capacity requirements.

The net effect of all these changes in activity is summarised below:-

	SOC	OBC
Base year admissions	109,634	112,408
Admissions in year of re-development	112,757	106,162
% increase in admissions	**2.8%**	**-5.6%**

1.3.3 Finance

Since the SOC, a wide range of actions have been taken to maximise the affordability of the scheme. The two main thrusts of this are outlined below:-

- A more aggressive stance has been taken on performance levels, with current upper decile performance being targeted, rather than the previous upper quartile performance. This both reduces the size of the scheme from what it would otherwise have been, and also enables revenue savings from bed reductions to be achieved which can contribute to the financing of the scheme (after taking account of FRP requirements). This stance on inpatient performance has also been carried through to other areas such as theatres, outpatients and diagnostics.
- More existing estate is being retained than was previously planned, and that is being retained is being used more intensively. Examples include the retention of the gynaecology and obstetric units on the Southmead site. The Frenchay Phase I building is being used more intensively in a number of ways. More of the community beds than previously are in that building (84 against 48 previously). 28 AWPT beds are also being included in the building (bringing in rental income). Simple elective surgery is planned to be undertaken within the existing AOC building. This also addresses the national drive to avoid or minimise new build for contestable services. All these changes reduce the area and therefore the cost of new build.

Clearly, notwithstanding these actions, the capital cost is higher than it was projected to be at SOC. The projected capital cost is now £374m for Southmead and £46m for Frenchay. This is due to:-

- Inflation. The SOC and the February exercise were at MIPS 385. The current figures representing 2005/6 prices are at MIPS 445.
- At SOC stage the scheme did not address consumerism sufficiently in two main ways. Firstly, it assumed 25% single rooms and 28m2 per bed. The national drive to improve space standards in ward accommodation especially in the context of increasing concern over infection control, is now very strong. The minimum standard is now at least 50% single rooms and 35m2 to 40m2 per bed. This has had a huge impact on space requirements. Secondly, the construction costs assumed previously did not properly take account of consumerism requirements around building quality and finish. This is now mandatory, and including it again increases costs significantly.
- Some clinical functions (e.g. the number of X ray rooms) were simply undersized at SOC stage as the capacity planning and sizing work at that stage, outside beds, was less well developed.

1.4 APPROVALS PROCESS

The OBC is submitted for approval by the Avon Gloucestershire and Wiltshire Strategic Health Authority (AGW) and the Department of Health.

Following approval, it is intended that the Southmead component of the scheme will be procured through the Private Finance Initiative (PFI) with a decision still to be made on the procurement method for Frenchay. Both schemes will be completed by 2012/13.

1.5 SUPPORT FOR THIS OBC

This OBC is supported by:

- North Bristol Trust
- Bristol North PCT
- South Gloucestershire PCT
- Bristol South & West PCT
- North Somerset PCT
- Bristol Health Services Plan Programme Board.

1.6 RELATIONSHIP WITH OTHER CAPITAL INVESTMENT BUSINESS CASES

This OBC 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 Pathology services, and cardiac services
- Centralisation of Pathology services across Bristol.

In addition, the local health community has developed an integrated Health Informatics Strategy (HIS) for IM&T linking primary care and hospital information systems.

1.7 NBSG PROGRAMME STRUCTURE

The development of the NBSG programme (including this business case) has taken place under the guidance of the North Bristol and South Gloucestershire Cluster Board. This is chaired by the North Bristol Trust Chief Executive and includes representatives from Bristol North PCT, South Gloucestershire PCT, the Strategic Health Authority, Social Services and other key stakeholders.

This Cluster Board reports into the Bristol Health Services Plan Programme structure and is responsible to the Boards of the North Bristol NHS Trust, Bristol North PCT and the South Gloucestershire PCT. The programme is supported by a Project Board and Project Team.

SECTION 2: STRATEGIC CONTEXT

2.1 INTRODUCTION

This section addresses the strategic context for the proposed development including:

- The national policy context, and healthcare trends
- Local strategy for healthcare and the Bristol Health Services Plan

This section also describes:

- Local context and current services.
- The involvement, consultation, scrutiny and decision making process leading to this OBC being developed, and key messages which have shaped these proposals.

2.2 NATIONAL POLICY CONTEXT AND HEALTHCARE TRENDS

Following the NHS Plan (2000) and the NHS Implementation Plan (2004), the key emphasis of national policy now is to ensure that services are patient-led, and patients benefit from:

- Options, choice and control over the services they receive.
- Strong national standards and safeguards in how their care is delivered, including more integrated networks of care.
- Clear pathways of care centred on an understanding of their needs, not the needs of the service.
- Enhanced services more locally in primary and community care.
- An NHS focussed on health improvement and protection, not just the treatment of sickness and illness.

This policy is being updated and a consultation process: '*Your health, your care, your say"* is being conducted by the Department of Health. The results of this process will be consolidated in a forthcoming policy document '*Out of Hospital'*.

The service model and proposals set out in the OBC reflect these patient-led themes and aims.

The national policy and key trends in health care provision, most relevant to this business case, are summarised below.

2.2.1 Plurality and choice

Patients are already 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, Mar 05). New, independent sector providers are being introduced to the healthcare market to facilitate wider choice and PCTs 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.

Choice and provider plurality may change overall volumes of activity, or the case mix of activity that individual Trusts deal with.

The demand plans in this OBC reflect projections about the impact of the more competitive market, choice and provider plurality.

2.2.2 Payment by Results (PbR)

The new 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, Trusts' 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 who are able to deliver services at more efficient rates and this is a real stimulus for change. In particular there is a benefit for Trusts to provide new streamlined processes in built-for-purpose facilities.

The costs of providing services under the plans set out in this OBC will need to be affordable at national tariff. There will be risks and sensitivities around these calculations as PbR is still being introduced, and the tariff is being revised annually as Trust operating costs improve nationally. The financial projections underpinning this OBC include several sensitivity tests on how the affordability of the case responds to PbR.

2.2.3 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. The development of specifications for the new NBSG services, with the joint working between GPs and hospital clinicians, has laid a useful foundation for the requirements of the future.

2.2.4 Access

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

- By 2008 a maximum 18 week 'end to end' wait should be achieved from the time of GP referral to hospital treatment starting. This compares to a current maximum 13 week wait from GP referral to first outpatient appointment, no maximum wait for diagnostics between first outpatient appointment and decision to treat, and a maximum six month wait from decision to treat to surgery. To meet the targets, the new services in North Bristol and South Gloucestershire will need to deliver rapid access and high throughput and this is the focus of the clinical redesign work being undertaken by the local Trusts.

- Waiting times in A&E, and delays in discharge to other community care settings, are key measures of how well the health system is working. The service model and operational policies underpinning this business case will ensure that the patient's journey through the system is smooth and without bottlenecks at each step in the process. Strategies include separating emergency and elective activity where possible and introducing an Urgent Care network with a team dedicated to this area of work.

- Waiting lists will be abolished with patients able to book a convenient time for their appointment or treatment at the time of referral. The 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. More people with minor illnesses and injuries or long term conditions want to be looked after in or near their own homes. There is an increased move away from the idea of "institutional care" and this is a major focus for the BHSP.

The national drive to establish a number of locally based treatment centres providing diagnostics and minor surgery has been part of this strategy. The NSFs for long term conditions and enhanced urgent care services in primary care (e.g. out of hours services) will also contribute and the local Trusts are developing a specialist team system aimed at tackling this issue.

All the above access themes are reflected in the proposed new service model for North Bristol and South Gloucestershire and this model is described in more detail later in this case.

2.2.5 Advances in medical technology

New technology and skills allow care to be delivered in new and better ways. For example, many people who used to need to stay in hospital for several days for a surgical procedure now can be treated as a day case. Diagnostic equipment can frequently be provided cheaply and effectively in local settings, when in the past it was only possible to have it at major acute hospitals.

Also, the development of diagnostic networks based on latest digital imaging techniques and equipment allows for centralised reporting and supervision of services including the potential for 'Virtual Hospital at Night' schemes, linking a number of acute services. This technology also makes it possible to connect acute sites with out-posted community based services enabling the provision of more services e.g. urgent care in a variety of locations.

Another benefit is the ability to link up tertiary/specialist sites with local DGH sites to provide a more integrated service.

These advances in technology encourage the NHS to redirect investment away from traditional building structures towards a new type of environment with more diagnostics and more communication infrastructure.

2.2.6 Trends in provision of specialist services

The way in which acute services are provided is changing in response to new standards, knowledge and legislation. The proposed new service model takes account of these trends. The most significant trends include:

- Increasing sub-specialisation in clinical practice, such that patients are not treated by generalists but are treated by clinicians particularly skilled in their area of clinical need. This trend has led to a pressure to centralise these more specialist teams in acute sites where they can provide cross-cover and round-the clock interventions and opinions. This trend in medical practice, whilst improving the outcomes of individual treatments and interventions, has made it more difficult to

sustain the traditional pattern of District General Hospital teams.

- The need to improve the working conditions of junior doctors and overhaul medical training (*Modernising Medical Careers)* and to comply with the European Working Time Directive. This is a difficult proposition in Bristol with staff split between three acute sites and required to cover three different sets of rotas. This requirement is adding to the pressure to concentrate specialist teams in central sites and locations to enable the construction of sustainable rotas.

2.2.7 Stakeholder involvement - 'Keeping the NHS local – a new direction of travel'

This policy provides a framework for stakeholder involvement and consultation. It also sets out the importance of redesigning services to improve configuration and access, not simply relocating them. Service redesign is best achieved by taking a whole systems view. The service model set out in this OBC achieves this through improved team working and network arrangements, avoiding unnecessary relocations and capital investment wherever possible.

2.2.8 Modernisation and process improvement

The Modernisation Agency has identified ten improvement strategies known to have a significant impact on patient throughput and operational efficiency. These are described in 'Ten High Impact Changes'. These high impact changes have been embedded in the future service model and operational policies.

2.2.9 Management of long term conditions

The NHS Implementation Plan (2004) ensures that the focus over the second half of the ten year NHS Plan period is on effective management of long term conditions. This is through local, early treatment, high quality personal care, and reduced emergency admissions. The Long Term Conditions National Service Framework provides detailed guidance and models for local implementation. A major theme in these proposals is the integration of services provided to patients with these conditions and the emphasis on packages of care that combine hospital and community services.

The service models described in the OBC are designed to support this strategy with the adoption of a number of new approaches including case management and vertical integration between community and hospital teams.

2.2.10 National standards

The NHS needs to deliver services in line with a range of standards and indicators, including those set by the Healthcare Commission, NICE and the National Service Frameworks (NSFs). NSFs have been published over the last five years setting out national standards and guidance for the delivery of key clinical services.

There are also a number of standards around Control of Infection and reducing the incidence of outbreaks of Hospital Acquired Infections/Virus such as MRSA and Norovirus.

The assumptions and models set out in the NSFs are reflected in the overall service model. There is also a major emphasis in the design specification on control of infection with a target of 75% single rooms and separation of routes throughout the hospital as well as a number of other strategies to mitigate the impact of outbreaks of Norovirus, MRSA etc. that can prove fatal to patients and highly disruptive to the way

hospitals organise themselves to deliver efficient patient care.

2.2.11 Public health and health improvement

The government White Paper 'Choosing Health' sets further targets for the NHS in terms of health improvement. These include:

- Greater focus on reducing obesity, smoking and sexually transmitted diseases.
- Specific health improvement targets to reduce death rates by 40% in heart disease and stroke in the under 75s, by 20% in cancer, and by 20% from suicides by the year 2010.

The NBSG service model includes the creation of whole pathways of care including prevention and promotion. In addition, investment is being made in new diagnostics and treatment facilities including catheterisation facilities.

2.2.12 Changing workforce and education

Significant changes are being made to the healthcare workforce including new roles and ways of working (e.g. advanced practitioners, and non-medical consultants), and their terms and conditions of service (e.g. compliance with the European Working Time Directive, and implementation of Agenda for Change). These changes are reflected in the type and number of staff planned to deliver future services in North Bristol and South Gloucestershire.

To reflect the changes in workforce across the country, there are changing trends in the way education is provided with an emphasis on:

- Competency based pay structures with a requirement to standardise and systemise the way Trusts link training and development to service provision;
- Front-line training with a move away from the classroom to teaching by the patient's bedside;
- Development of simulation and skills laboratory techniques to deliver less theoretical programmes of training and development.

The specifications for the new NBSG services address these themes and propose a new type of purpose-built academic accommodation.

2.2.13 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:

- 3000 GP premises to be refurbished or replaced by the end of 2004.
- 40% of the total value of the NHS estate to be less than 15 years old by 2010.
- Establish 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.

The local estate in North Bristol and South Gloucestershire falls well short of these national standards with 90% of the current hospital estate being more than 15years old and the substantial part more than 50years old. The problems of the local estate are described in more detail later in this section.

The plans set out in this OBC will enable these national targets to be addressed and the chronic local problems to be addressed.

2.2.14 Summary of National Context

The range of policies and national initiatives detailed above summarise how NHS services will be expected to adapt and improve to provide truly "patient-led" services:

Achieving this overall system vision will pose important challenges for NHS acute hospitals and their partner PCTs– alongside a range of important external challenges which must also be met in coming years.

The introduction of system reform (i.e. choice, payment by results, plurality of provision etc.) will promote competition between hospitals and other providers; shifts in activity between providers have the potential to create important pressures for change in service delivery. At the same time, considerable work is still required to improve service integration and to strengthen the operation of managed clinical networks, especially in the area of urgent and emergency care, paediatrics and maternity services. The White Paper that will emerge from the *Your Health, Your Care, Your Say* exercise is likely to contain important initiatives aimed at extending the range of secondary care services which can be accessed by patients closer to home and outside hospitals, which will clearly impact on the future delivery of hospital services.

Meanwhile, the NHS will continue to face shortfalls in the supply of key health professionals for several years. Achieving compliance with the European Working Time Directive 2009 will require further redesign of service models and ways of working than was the case for WTD 2004, with less scope to employ additional staff to take up the slack. Combined with a more rigorous and comprehensive approach to ensuring patient safety, all acute hospitals (but especially smaller hospitals) will face renewed pressure to rethink their working patterns and to recognise the growing interdependencies between hospitals.

The implementation of *Modernising Medical Careers* will require new approaches to balancing training and service delivery, while improving the future base of skills to support acute care.

A crucial challenge will be to ensure that the future vision for acute hospitals is financially sustainable, especially as the NHS transitions from its current period of expansionary funding growth to a "steady state" of lower annual growth.

There are major threats to health in the future, from rising rates of obesity, alcohol consumption and high levels of smoking. These, combined with growing numbers of older people, could put significant burdens on services unless current trends are reversed. Sustained or increasing demand on health services is likely to be seen in major disease areas, such as musculoskeletal disorders, respiratory disease, heart disease, cancer, diabetes and renal disease. Meanwhile, health inequalities will continue to present a challenge to the NHS.

However, there are also important opportunities to provide better and more effective healthcare. Conditions which were once fatal can now be cured. Medical advance, supported by advances in information technology, will continue to improve health outcomes, but will also create budgetary pressures – as will rising public expectations of health and health services. Given the rate of change and uncertainty about the future, health care providers will need to be able to adapt their services continuously to this rapidly changing environment.

The population as a whole is looking to NHS Trusts, PCTs and Strategic Health Authorities to develop joined up plans and initiatives to meet the national agenda.

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). This defines the overall pattern of service provision within which the proposals set out in this OBC are being made and how the Local NHS community is looking to respond to the national requirements for change.

To respond to these national requirements, the organisations around Bristol recognised that a concerted programme of change was required to mobilise all the resources of local Trusts and to generate a single approach to the modernisation of services.

To achieve this concerted approach the "Bristol Health Services Plan" (BHSP) was developed in 2003 to represent all the local stakeholder organisations and to provide a vehicle for 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. The BHSP has two core strategies guiding the reshaping of health services across BNSSG:

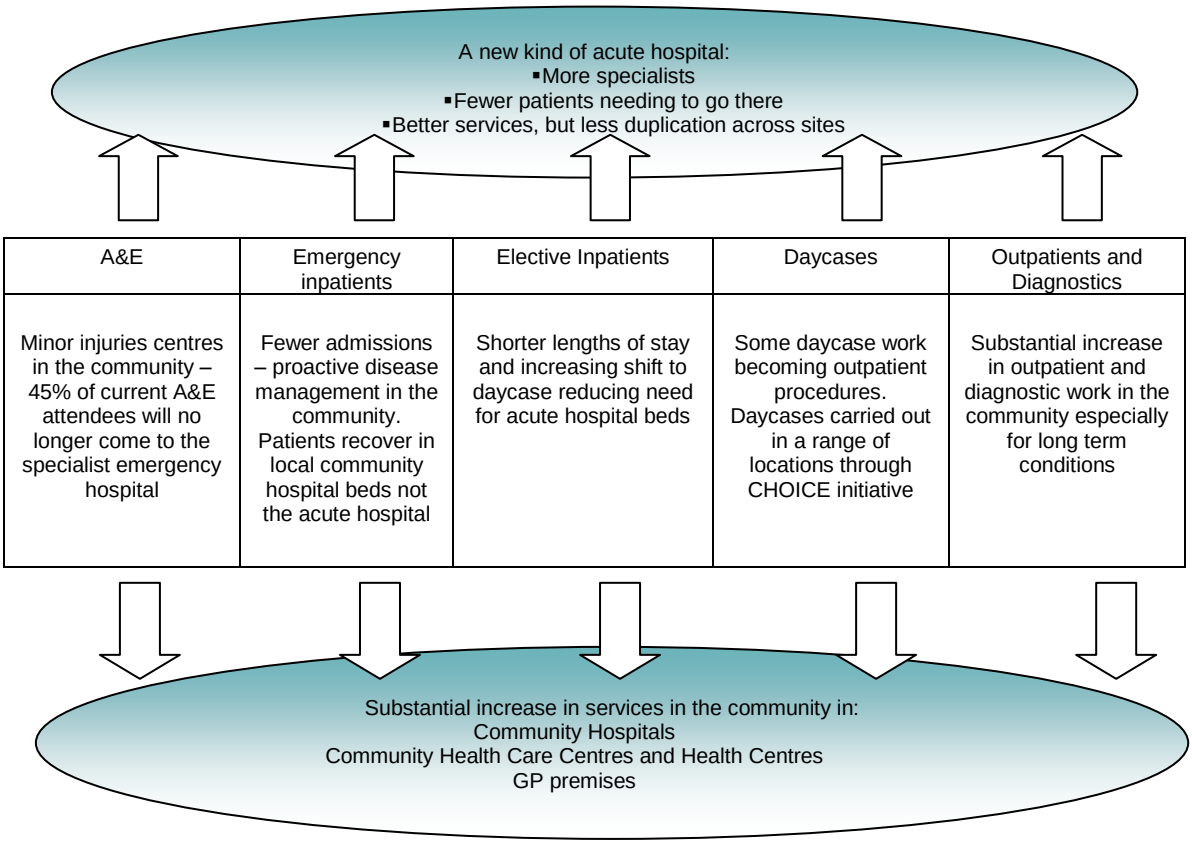
Strategy 1: Wherever possible and appropriate, provide care closer to people's homes through the development of new facilities in the community, and community hospitals.

Strategy 2: Improve the care that can be provided to patients when they require emergency and specialist hospital services by concentrating specialised expertise and equipment together

In light of these 2 strategic areas, 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 local hospital services to prevent inefficiencies, gaps in provision, delays and duplication of effort;
- Improve the very poor patient environment and working conditions in the old hospitals and provide buildings fit for the 21st Century;
- Contribute to the wider objective of neighbourhood renewal and re-generation
- Provide a vibrant learning and education culture

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



2.3.3 Model of Care

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

2.3.3.1 Public health

Public health initiatives tackle a range of health issues including health inequalities. Current work focuses on community health development, quality of cancer care, coronary heart disease, diabetic retinopathy and children's health.

2.3.3.2 Self-care

Support for self-care will improve health outcomes. Key initiatives include:

- The 'Expert Patient' Programme,
- Long term conditions management in primary care,
- Secondary prevention, including exercise, weight and smoking cessation and enhanced preventive services for heart and lung diseases.

2.3.3.3 Primary Healthcare

Primary healthcare will remain central to community-based care and the coordinating point for integrated primary healthcare teams. Practice-based commissioning will enable GPs to innovate and transform patient pathways. Primary care will provide:

- First contact with patients, diagnosis, care, treatment and referral
- 'Whole of life' care for patients
- Provision of extended and enhanced care for all
- Diagnostic services, including those in mobile facilities, where appropriate.

Increasingly, additional services will be provided in Primary Care (e.g. therapy services, care of long term conditions, sexual health, Mental Health). These will be based in a small number of Primary Care Centres, probably as an extension to an existing GP practice. There will be more capacity to provide higher levels of service and greater population coverage for long term conditions like heart disease and diabetes. Healthcare premises will be improved.

2.3.3.4 Community-based services

A network of community-based healthcare services will be expanded and developed, to increase the range and volume of health services provided closer to people's homes. The community facilities will include:

- High volume and low complexity outpatient services
- Local anaesthetic minor surgery
- Renal Dialysis
- Minor injury/illness services
- Diagnostics (e.g. routine x-ray, ultrasound, endoscopies)
- Some inpatient beds
- Rehabilitation services, including therapies

This model will be flexible to ensure service provision is based on health need and populations in each locality. This should also lead to a greater emphasis on 'in-reach' rather than 'out-reach'. The range of services available in the community will expand, to include a shift of diagnostic and treatment services currently only available in acute hospitals.

Strong primary and community services and facilities will be developed with reduced reliance on acute hospitals. Local community service developments will complement wider action on regeneration and renewal e.g. creating local employment, and supporting and encouraging local provision for higher levels of physical activity.

2.3.3.5 Acute, emergency and specialist services

The acute hospitals will provide major accident and emergency services, complex elective work and low volume, highly complex and multi-speciality outpatient work. They will focus on solving problems and returning people to their homes as quickly as possible. Services will be rationalised to avoid duplication, and this will lead to centralisation of some services on single sites. Features of the new services will include:

- A more responsive interface with primary care including a greater emphasis on immediate diagnosis and assessment;
- A substantial expansion in designated day case surgery
- Accelerated recovery programmes for major elective surgery
- Integrated front-door arrangements with increase emphasis on returning

patients home at the earliest opportunity

The service model relies on a concentration of A&E and acute assessment services within Bristol into 2 main receiving centres at Southmead and the BRI. These will complement services at Weston. This strategy allows the provision of an acute core that can respond flexibly to changes in demand and work as a single acute/emergency system. This integrated core will be characterised by a range of single processes including:

- Networked receiving arrangements for emergency patients to allow ambulance service in line with capacity at the acute sites Routing of GP referrals for a bed, based upon capacity and specialist treatment
- Flexibility including potential to open or close operating theatres for periods 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 distance;
- Joint adoption of modern technological solutions

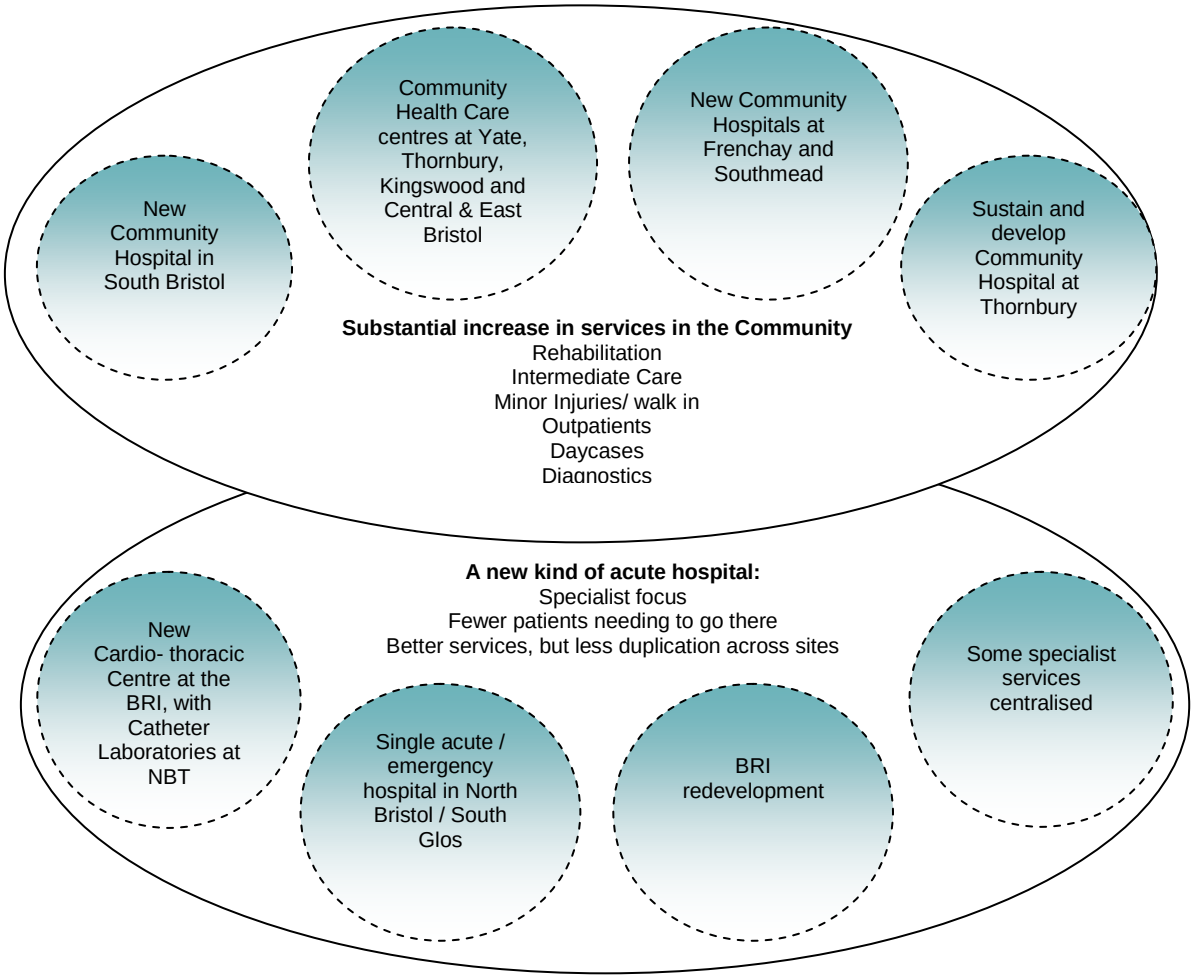
2.3.3.6 Tertiary services

The BHSP aims to introduce a network approach to specialist services. This approach will harmonise the provision of tertiary services between specialist hubs and out-posted services at other sites. This approach will entail:

- Concentration of some specialist services to create coherent hubs e.g. Head and Neck specialties and children’s services;
- Agreement of joint protocols to assist access and flow of patients between services;
- Development of communication networks including digital imaging and telemedicine;
- Development of research and translational strategies allowing rapid transfer from laboratory bench to clinical application. This is most likely to occur in key tertiary services for example oncology, neurosciences, renal and cardiac services.

2.3.4 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 diagnostic and outpatient services, but not inpatient care.
- Development of Community Hospitals at South Bristol, Thornbury, Frenchay, and Southmead – providing inpatient care for people recovering from illness and a wide range of diagnostic and outpatient services.
- A single acute hospital for North Bristol and South Gloucestershire – in place of the current configuration (acute hospitals on both the Frenchay and Southmead sites).
- Investment in the Bristol Royal Infirmary - capital investment to address the quality of buildings and the patient care environment.
- Centralisation of some specialist services – This includes 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 specialist 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 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 facilities at Clevedon and Weston.

2.3.6 BHSP Summary and Link to the NBSG OBC

The BHSP has provided a detailed strategic context for the development of services around Bristol and has provided a method of ensuring consistency between developments as well as a strategic/affordability framework to govern the activities of individual Trusts.

A report from the BHSP to the Strategic Health authority was considered on 20th October 2005. This report included a number of elements including:

- A refined clinical model that has been used to steer the development of a clinical strategy for NBSG;
- An affordability review of the whole of the BHSP that is used as a financial framework for this OBC;
- A sense-check on current National policy and the relationship with the BHSP that includes a strategic approach on the provision of contestable elective services. This has been used to limit the scope of new development in this Business Case;
- A risk management strategy that has produced a sequence of capital investment to support the NBSG development;
- A timetable and programme of development for all schemes within the BHSP that has provided a framework for the development of this OBC

In particular the BHSP Steering Group highlighted the following issues in the affordability assessment, which are directly relevant to the NBSG OBC:

vi) A savings requirement of £13.5m for NBT was not unreasonable in light of their scope for efficiency and redesign benefits realisation.

vii) In their outline business case NBT should set out the reasons why it was not appropriate to phase their £420m scheme.

viii) The assumption by Trusts of a 1.5% pa growth in income from activity increases was appropriate to phase their £420m scheme.

ix) The assumption by Trusts of a transfer to the independent sector of activity valued at £20m in BNSSG was appropriate in light of DH policy initiatives of approximately £38m in AGW. This transfer is after the 1.5% pa activity increase referred to at (iii) above.

x) Business cases should be prepared taking account of the potential use of vacant beds at West Area Healthcare Trust and should maximise the use of good quality existing estate.'

In response, the Strategic Health Authority welcomed the progress made by the BHSP project and supported the local NHS planned model of care.

With respect to Outline Business Cases which would be prepared within the framework of the BHSP, the SHA endorsed the Programme Board and Steering Group position that:

"the Affordability Assessment was not a substitute for properly scrutinised Outline Business Cases (OBCs). This issue would be the subject of further work prior to submission of Outline Business Cases".

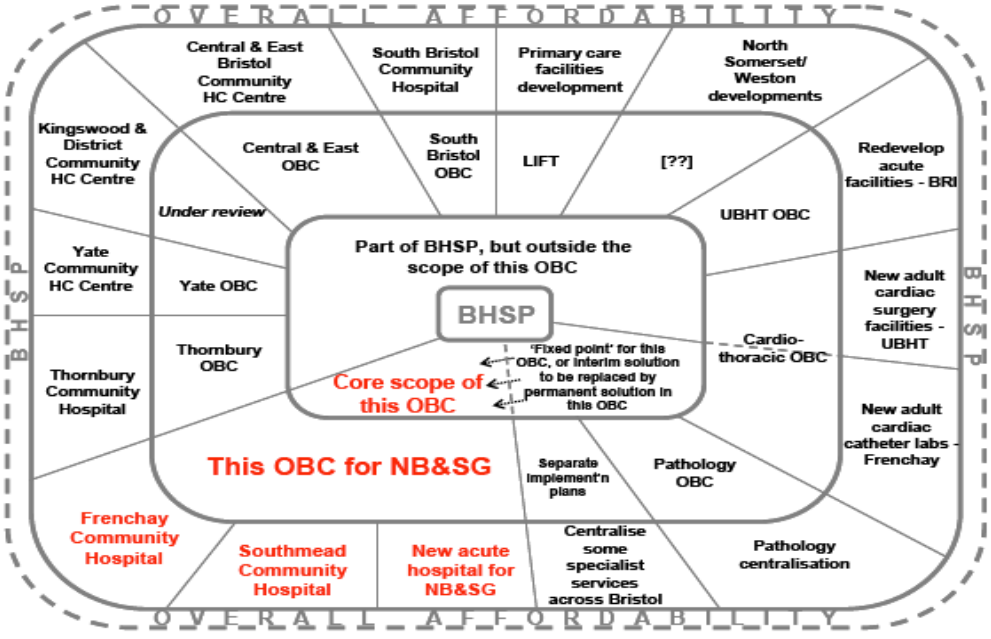
The affordability assumptions of the NBSG developments are addressed in Section 8 of the OBC.

The SHA report also concluded that:

- The SHA should require the BHSP Steering Group to ensure that OBCs are robust in the context of the potential for a future service reconfiguration across acute hospitals, and to ensure that the configuration of community provision is taken forward by the new PCT in the context of implementing the organisational changes resulting from the Commissioning and the Patient Led NHS in AGW.
- The OBCs for capital schemes should have explicit sensitivity analysis within the BHSP envelope.
- The travel and access assessment report should be reported back to the SHA by the end of November.

Following the 20th October milestone, the Trusts have produced this OBC as part of the overall BHSP programme.

The figure below shows the scope of this OBC in the context of the other BHSP development plans:



The other schemes in the BHSP that are outside the scope of this OBC have been taken into consideration in developing this case with careful consideration of the interface with developments such as Pathology, ENT and Cardiology. The case has applied the following principles:

- Interim schemes have been developed where possible with a view to securing long-term value e.g. incorporating the interim Cardiac accommodation as part of the final Frenchay campus by developing a multi-purpose design;
- The scheme at Southmead should have the flexibility to connect to Pathology, Obstetrics or other schemes that might develop on the site

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, Bristol North PCT, South Gloucestershire PCT. 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 whole 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	BNPCT	% of total where applicable	% Change 2005 - 2030	SGPCT	% of total where applicable	% Change 2005-2030
Registered patients at September 2005	233,604			248,844		
Males	118,405	51%		126,699	51%	
Females	115,199	49%		122,145	49%	
Number of patients aged 65 and over	32,843	14%		36,774	15%	
Estimated population growth over the next 25 years	21,024		9%	44, 000		18%

Source: Bristol North & South Gloucestershire PCTs

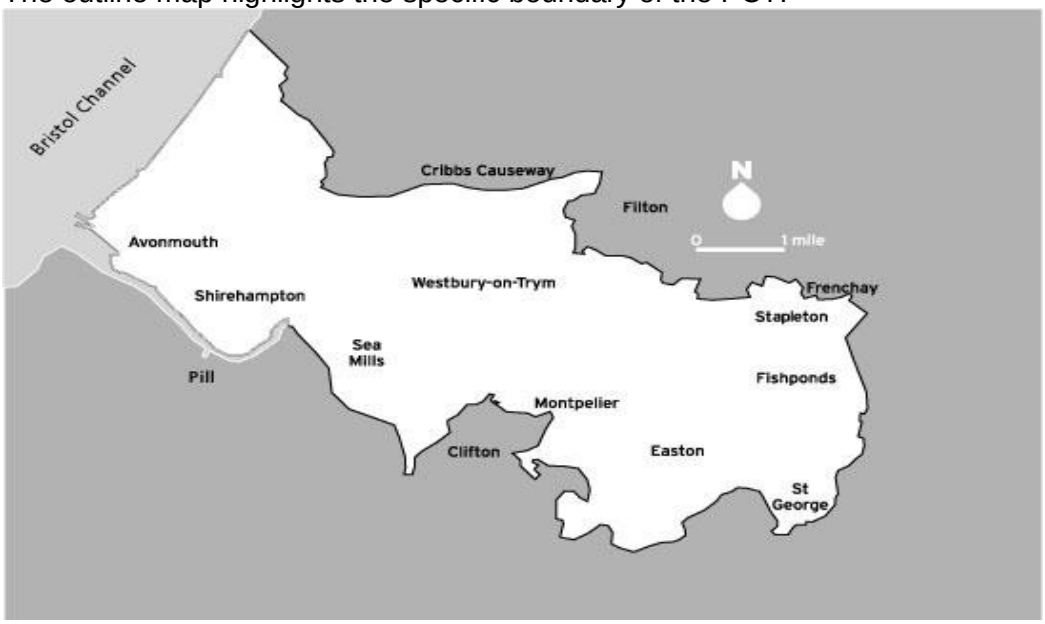
Bristol North includes about half the city of Bristol, from Avonmouth in the west to St George in the east, and the inner city. There is a registered population of around 234,000. The 2001 census showed that 10.4% of the population are from black or minority ethnic groups. This compares with an English average of 9.1%. Although there are many affluent areas, 15% of the population lives in wards that rank within the most deprived 10% of wards in England. 22% of the population in more deprived areas within North Bristol reported a limiting long-standing illness compared with only 12% of people in the area as a whole.

The registered population of South Gloucestershire is around 249,000 patients. 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 under 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 Bristol North PCT

2.4.3.1 Introduction

The outline map highlights the specific boundary of the PCT:



BNPCT manages and coordinates its planning and service provision around two localities, 'North West' (around 120,000 patients) and 'inner city & East' (around 114,000 patients). Each locality is subdivided into three areas covering a population of 30-50,000, which are known as patches. These are clustered around groups of practices and health centres.

2.4.3.2 Strategic direction

BNPCT 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 based care.
- Supporting the objectives of local practice based consortia

2.4.3.3 Financial context

The table below outlines how the £278 million PCT budget was spent during 2004/ 2005:

Table: 2.4.3.3: Financial Spend - BNPCT

Description	Amount (millions)	% of total expenditure
Main hospital services	£132m	48%
Mental health services	£ 28m	10%
Prescribing	£ 28m	10%
GP and related services	£ 27m	10%
North Bristol Trust Bank Support	£ 20m	7%
Learning difficulties	£ 13m	5%
Community services	£ 11m	4%
Partnership and programmes	£ 11m	4%
Ambulance services	£ 4m	1%
Management	£ 4m	1%
Total	**£278m**	**100%**

Source: Bristol North PCT Annual Report 2004/ 2005

For the last year of audited accounts, BNPCT remained within its cash limit, revenue limit and capital resource limit and provided services within budget.

2.4.3.4 *Primary care*

There are 31 general medical/ personal medical services practices operating within the BNPCT boundary with an average list size of around 7,500 (UK average of around 6,000 patients). There are around 136 WTE GP principals or salaried GPs employed by practices with 246 GPs registered on the BNPCT Performers list. A typical practice will also employ around 20 staff including nurses, management, administrative and other support staff. This equates to around 650 individuals across the PCT. The PCT owns or uses a range of premises to provide and commission Primary Care services. Of the 31 practices (including branch sites) nineteen surgeries are owned by GPs, eleven are owned by the PCT, and one owned by Social Services (provides social care and well being services as well as primary care).

2.4.3.5 *Workforce*

BNPCT directly employs around 800 whole time equivalent staff, 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. BNPCT continues to work with other local health and social care providers to develop robust employment systems.

2.4.3.6 *Hospital activity*

Table 2.4.3.6 below highlights key activity for providers for the year 2004/ 2005. It highlights that most of the activity is provided by the two local hospitals for the registered population.

Table: 2.4.3.6 – Key Activity for Providers 2004/05

Description	Total Number	NBT Totals	UBHT Totals	Other Totals
New outpatients (consultant, AHP, nurse-led)	64,095	43,388	20,257	460
Follow up outpatients (consultant, AHP, nurse-led)	162,746	102,013	59,272	1461
Emergency admissions	35,346	23,245	11,334	767

Elective inpatients	8,403	5,086	2,582	735
Daycases	19,669	9,613	9,919	137

Source: Avon IM&T Consortium

2.4.3.7 Delivering performance and key challenges

The PCT is performing well in a number of areas against national targets and indicators, including access to GP and primary care professional, 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.

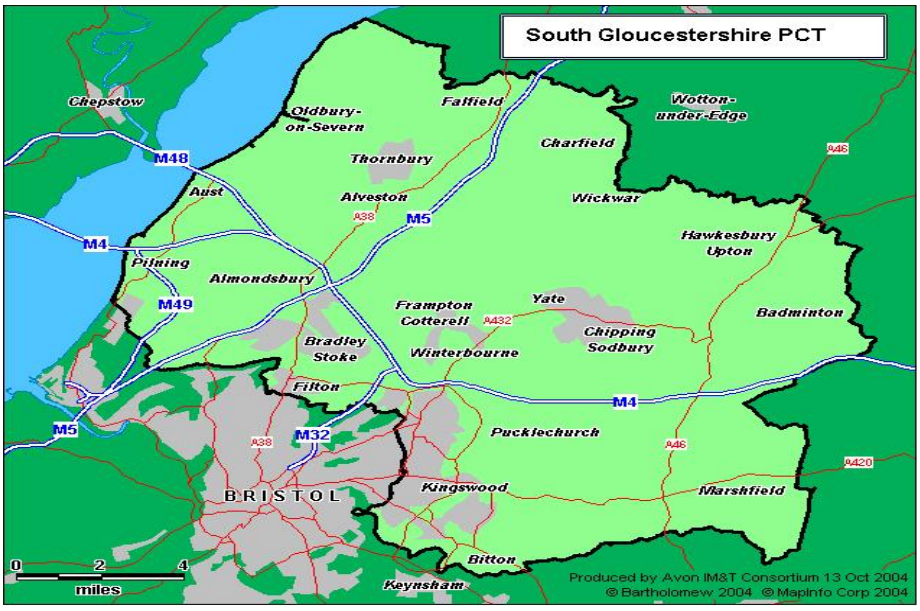
Other key challenges include:

- 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 South Gloucestershire PCT

2.4.4.1 Introduction

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

- A 3 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 PCT budget was spent during 2004/ 2005.

Table: 2.4.4.3 – Financial Spend - SGPCT

Description	Amount (£Millions)	% of Total Expenditure
Main hospital services	124.3	53.3
Mental health services	15.8	6.8
Prescribing	29.8	12.8
GP and related services	28.7	12.3
Learning difficulties	17.2	7.4
Community services	7.9	3.4
Partnership and programmes	0.3	0.1
Ambulance services	3.4	1.4
Management inc capital charges	5.9	2.5
Total	233.3	100

Source: South Gloucestershire PCT Annual Report 2004/ 2005

In 2004/5 the PCT achieved the 5 national financial targets and the PCT operates stringent financial controls on expenditure.

2.4.4.4 *Primary care*

There are 29 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 580 individuals across the PCT

2.4.4.5 *Workforce*

South Gloucestershire PCT directly employs around 491 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. South Gloucestershire PCT 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 for all providers and also split for North Bristol NHS Trust and United Bristol Healthcare Trust (UBHT) for the year 2004/05. It highlights that nearly all key activity for the registered population is provided by these two local hospital trusts.

Table 2.4.4.6: Hospital Activity

Description	Total Number	NBT Totals	UBHT Totals	Other Totals
New outpatients (consultant, AHP, nurse-led)	65,623	52,683	10,727	2,213
Follow up outpatients (consultant, AHP, nurse-led)	164,855	119,181	40,840	4,834
Emergency admissions	30,046	24,842	3,142	2,062
Elective inpatients	8,661	5,945	1,844	872
Daycases	19,206	11,149	7,490	567

Source: Avon IM&T Consortium

2.4.4.7 Delivering performance and key challenges

SGPCT 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 for BNPCT, 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

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, around 5,600 minor procedures were carried out in primary care in 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:

- Both PCTs have set up significant intermediate care teams working in the community providing active rehabilitation and re-ablement care in patients' own homes. This has facilitated shorter stays in the acute hospitals.
- SGPCT 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 SGPCT 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) 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 the PCTs and the acute trust 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 14,500 attendances per year. Plain film x-ray, ultrasound, echo-cardiograms and physiotherapy are provided out of 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: BNPCT and SGPCT have recently taken over the provision of the out of hours services in each locality. These are still GP-led services, but both PCTs 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 BNPCT PCT 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.

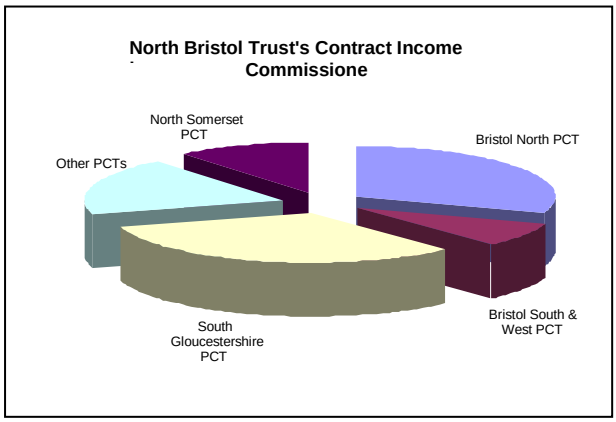
2.4.6 North Bristol NHS Trust

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 around half a million people in North Bristol and South Gloucestershire area – see maps attached at Appendix 1. 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 from further afield.

The following table shows NBT income from PCTs:

	£'000
Bristol North PCT	83,264
Bristol South & West PCT	21,739
South Gloucestershire PCT	88,479
Other PCTs	50,721
North Somerset PCT	29,604
TOTAL	**273,807**



In 2004/05, North Bristol Trust delivered:

- 82,000 inpatient episodes;
- 31,000 day case procedures;
- 315,000 outpatient attendances, including 200,000 follow-up appointments;
- 94,000 A&E attendances;
- 186,000 plain film exams, (of which 21,000 were at Cossham);
- 39,000 ultrasound exams;
- 27,000 CT scans;
- 16,000 MRI scans.

Current capacity available to deliver these services includes:

- 1,319 inpatient beds;
- 37 day case beds;
- 29 operating theatres;
- 3 MRI scanners and 2 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 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 2004/05, for example, elective orthopaedics had an average length of stay of 5.6 days which compares to the national mean of 5.0 days.

Day case surgery rates are below average. 60% of elective procedures were carried out as day cases in 2004/05, compared to a mean day case rate of 60.5% and an upper quartile day case rate of 70%. In terms of the Audit Commission's 'basket' of 25 day surgery procedures, the Trust delivered 45.8% as day cases compared to a peer group of similar trusts who delivered 66.6%..

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 diagnostics and state-of-the-art 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 2004/05, NBT dealt with 94,000 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 days which is considerably higher than the national mean of 8.1 days.

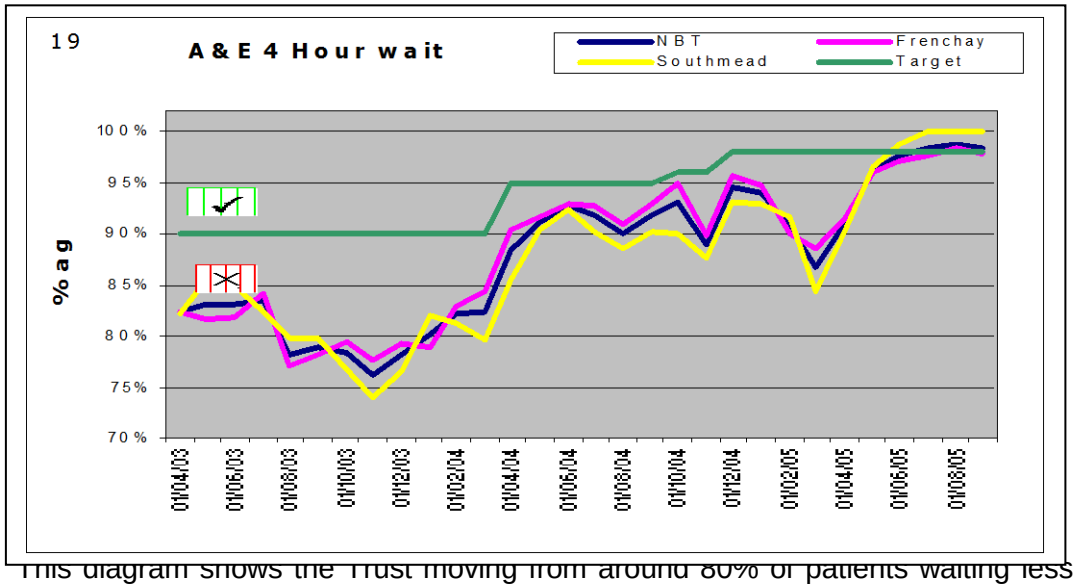
NBT is looking to develop the way in which emergency and acute services are provided by integrating the receiving functions at both hospitals. This will allow concentration of senior decision-making skill and consistency of approach irrespective of how the patient presents to the hospital. This ambition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

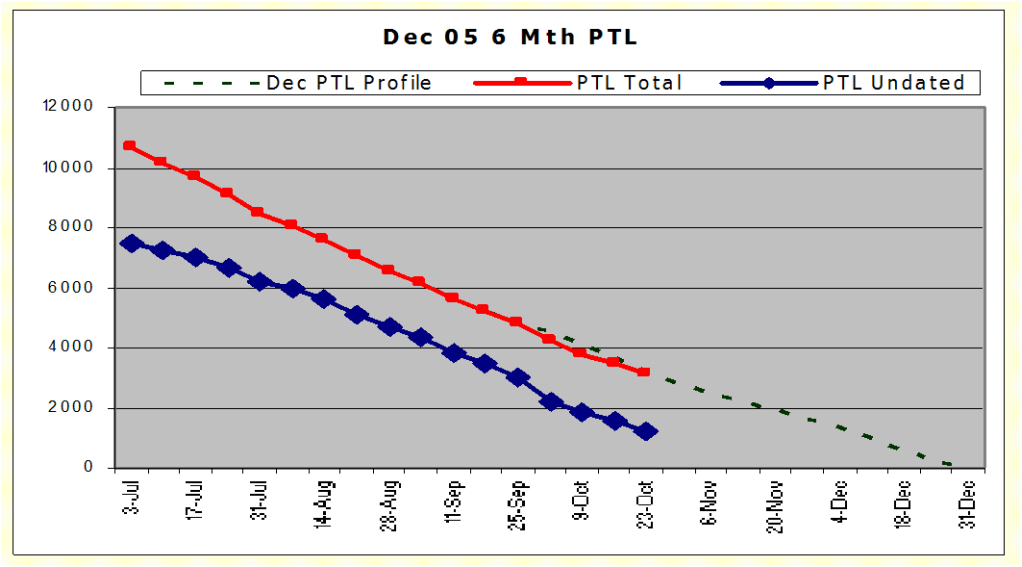
NBT has made significant improvements against most of its main target areas and has moved from a 0 star organisation to a 2 star organisation over the past 2 years.

Emergency and Acute: The Trust has delivered a huge improvement in performance against its 4hour A&E target as indicated in the following chart:

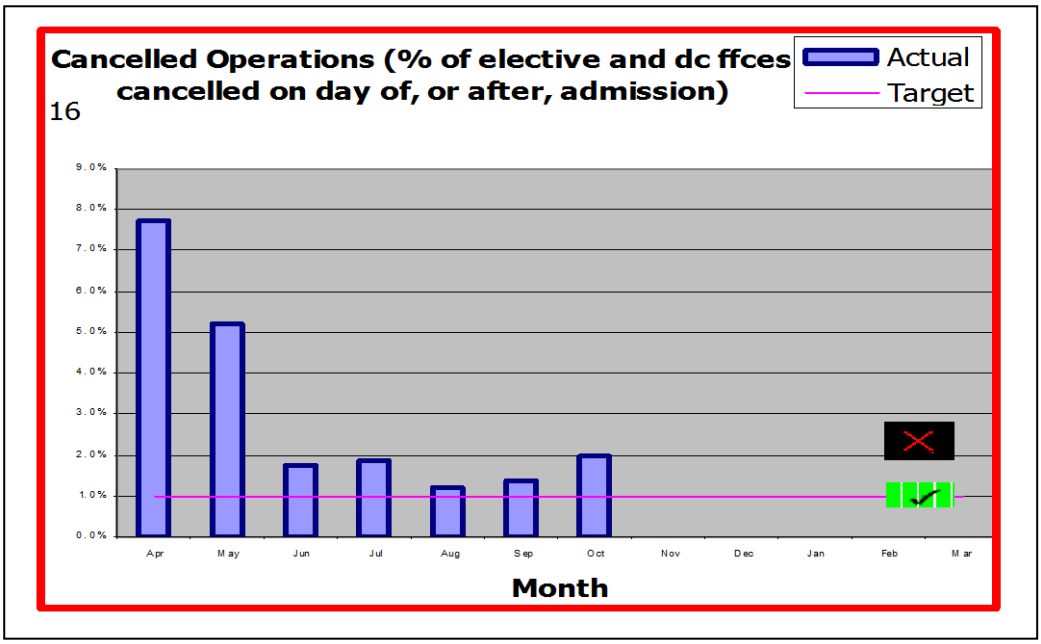


This diagram shows the Trust moving from around 80% of patients waiting less than 4hours in A&E in 2003 to over 98% by the end of 2005. This improvement coincides with a short-term centralisation of the major A&E at Frenchay. There are issues however, with sustaining the target as indicated by a recent review from the Department of Health Performance Support Team, and the scattering of acute services across both sites is still creating a difficulty in managing emergency patient flows effectively. The target was also adversely affected by an outbreak of Norovirus in spring 2005 and the current lay-out of wards with a combination of Nightingale wards and multi-bed bays with less than 10% of beds in single rooms meant that NBT found it difficult to react effectively and maintain performance.

Planned and Ambulatory: The Trust is performing to target on elective and outpatient waiting times but it has difficulties in sustaining services due to a scattering of outpatient facilities around the sites and difficulties in maintaining the required capacity to treat elective inpatients. Current performance is shown in the following charts:



This diagram shows a significant reduction in the number of patients waiting 6 months for an elective operation. There are, however a lot of pressures on the current elective system as illustrated by the number of cancelled elective operations shown in the chart below:



The ability of NBT and its commissioning PCTs, to continue to deliver and indeed improve on existing performance in order to meet future targets, is significantly challenged by the current configuration of services. The developing new model of care will support the achievement of new targets, but sustaining them will require investment as set out in this business case.

2.4.6.4 Financial context

The Trust made a £44m loss in 2002/3. Following major changes in both the Executive and Non-Executive Directors the Trust is now in the third year of a Financial Recovery Plan to bring the organisation back into recurrent balance. It is fully on track with the programme, having made cumulative savings over 2003/2004 to 2005/2006 of £47.8m, with further savings planned of £23.5m over 2006/2007 and 2007/2008 to reach recurrent balance. Further detail is provided on progress with financial recovery in the affordability section of the Business Case.

The Trust has been held up by the National Audit Office as a case study of good practice in financial recovery. The improvements in management capability and the more general cultural changes, that have been made in the course of achieving these savings, puts the Trust in a good position to deliver on the required OBC performance improvement and savings.

2.4.6.5 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 total NHS Trusts and PCTs are therefore major employers within the local economy.

As at 31 March 2006, North Bristol Trust will have a staff establishment of 7150 WTE, with the South Gloucestershire PCT 440 WTE and Bristol North PCT 638 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 will further reduce 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.

The Primary Care Trusts 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.

2.4.6.6 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 all of its staff and it is a leading 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 various 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 all the various academic activities around the Trust's sites. There are currently a wide scattering of academic activities on the Frenchay, Southmead and Blackberry Hill sites and this is leading to difficulties in co-ordination and maintaining a systematic approach to learning;
- An absence of educational and learning space in most of the Trust's front-line clinical environments. This makes it difficult to meet the developing trend in health service education to provide teaching at the 'patients' 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 given at Appendix 2 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.

2.4.6.7 Estates 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 original hospital was built in the 1920s as a Tuberculosis sanatorium. Many of the 1940s single storey wards built as a Second World War facility, located in long rows across the site, are still in use. 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.

  Since then a number of small scale facilities have been developed across the site including the Brain Injury Rehabilitation Unit, the Burden Institute, the Barbara Russell Children's Unit and the Macmillan Unit.

  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:** provides emergency and elective secondary acute services (excluding emergency general surgery, trauma, and a full accident & emergency service). The site has a nurse-led MIU. Tertiary level services; renal, including transplantation, urology, ENT, orthopaedics, and infectious disease are provided from Southmead. 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:** Previously provided inpatient rehabilitation services for medical patients who did not need the full facilities of a major acute hospital. These were transferred to the Frenchay and Southmead acute sites or into the community in 2005. A number of other services including therapies, training and research are scheduled for transfer to other locations during 2006/7 after which the hospital will close. Mental health services are also provided on site by the Avon and Wiltshire Partnership Trust.

  Blackberry Hill Hospital is 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.

- **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 (this service and its staff are managed by SGPCT). 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.

- **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 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.

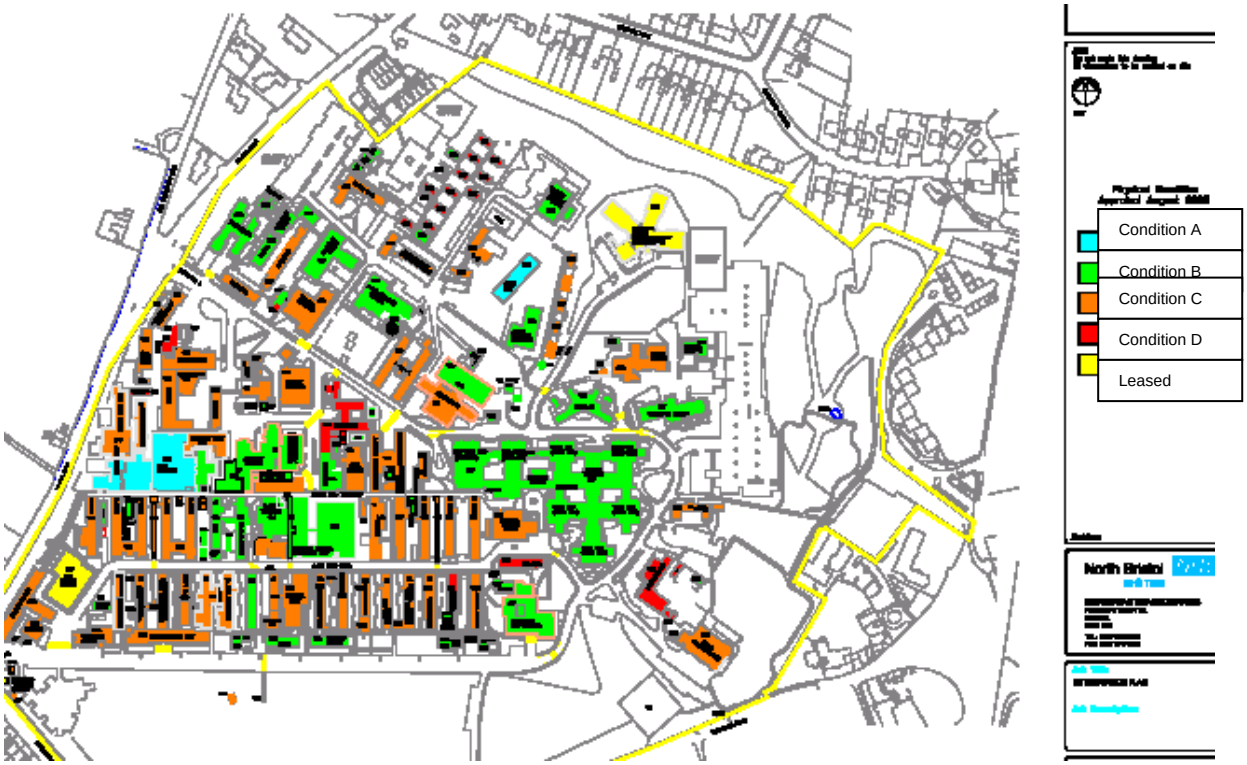
- **Wendover:** is a 0.21 hectare site. It is used as offices for the Women and Children's Health Directorate, and was the former Wendover Maternity Hospital. It is situated between Fishponds and Downend and is adjacent to Downend Day Centre (Social Services).

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. A typical example of this problem is the location of the A&E and assessment units at completely opposite ends of the Frenchay site, with an additional assessment unit on the Southmead site.

  The previous section has discussed academic strategy and the need to provide a more integrated function. The current estate fights against this with a scattering of academic facilities in buildings not designed for purpose with poor acoustics and lack of technology to facilitate education.

- Physical condition: Only 54% of the Frenchay estate and 66% of the Southmead estate has been graded in condition B. This classification reflects the considerable quantity of ageing and unsuitable estate that requires substantial investment to bring it to a suitable standard. A summary of the condition of the Southmead and Frenchay sites is shown in the following diagrams:



- 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. Given the shortcomings in the design of the older areas of the Hospitals, 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, due to the physical limitations of the sites and many of the buildings. 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, as 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	2005
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	2005
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

The Trust's financial recovery plan has so far resulted in the following estate related changes:

- Rationalisation of the Blackberry Hill Hospital site, making significant savings on capital charges.
- Revaluation of the estate.

The Trust is also seeking to rationalise its property portfolio, disposing of some smaller facilities and land plots altogether.

Planned strategic capital investments over the next five years include investments to enable the completion of the following projects (many on an interim basis):

- ENT/OMF centralisation.
- Cardiac catheter laboratories.
- Centralisation of pathology.
- Theatres upgrade.
- NICU upgrade.
- Statutory compliance works.
- HDU works.
- Medical assessment unit.

The Trust has agreed a Travel Plan for both the Frenchay and Southmead sites (Appendix 3). 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.

2.4.7 Information Management & Technology (IM&T)

The Trust is developing an IM&T strategy (Appendix 4) with 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 PCT's, 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.

2.4.8 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.

One of the main aims of neighbourhood renewal funding has been to change the way that mainstream services operate (mainstreaming). When the PCTs have been involved in the development of a proposal they have a fairly good record of mainstreaming. However, in the majority of cases the funded projects have been small scale and short term and haven't had the prior involvement of the mainstream agencies and very few of these have been mainstreamed. As a result of this, the Directorate of Public Health & Community Development has been awarded £33K to

look at what and how health services should change as a result of neighbourhood renewal funding to allow for further mainstreaming.

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.

2.5 PUBLIC ENGAGEMENT, CONSULTATION AND SCRUTINY

To underpin the response to the range of national and local strategic initiatives highlighted above, the local health community has conducted extensive public engagement and consultation on these proposals. See Appendix 5 for an overview of the engagement and consultation process.

During 2002/03 the local NHS consulted widely on options for the future of health services across Bristol. In particular, it explored whether it would be best in the long term to have a single major hospital to serve the Bristol area (excluding Weston). Feedback from the public was very clear. There was considerable support for moving services out of hospital and into the community, but people were worried about the idea of a single 'super hospital' for Bristol. Local Councils were also concerned about this model, both in terms of access and in terms of the economic impact of potentially losing a city centre hospital presence.

In January 2004, the local NHS launched a three month period of public engagement on the Bristol Health Services Plan. This took account of the 2002 exercise and contained proposals for providing many more services in community settings whilst maintaining major hospitals, in both central Bristol (the Bristol Royal Infirmary) and in North Bristol and South Gloucestershire.

The public engagement process set out options for concentrating all hospital services at either Frenchay or Southmead, or for concentrating acute services on one of the sites and developing a community hospital on the other site. It also set out options for developing a network of community hospitals and healthcare centres throughout South Gloucestershire and North Bristol.

The feedback from the public engagement process was clear:

- The public wanted to see some ongoing hospital presence on both Frenchay and Southmead sites.
- There was strong support for the development of community hospitals and community healthcare centres.

The local NHS initiated a period of public consultation between September and December 2004. This took account of the feedback from public engagement and removed the option of concentrating all services at either Southmead or Frenchay, thus ensuring that a hospital presence remained at both existing sites.
The Bristol Health Services Plan consultation document also sought feedback on the ten criteria, which the local NHS proposed should be used to determine which site should be selected as the major acute hospital site for North Bristol and South Gloucestershire. These criteria were:

- What will the options mean for the quality of care that patients receive?
- What will the options mean for the development of community services?
- Will the options help us in recruiting doctors and the other specialist staff we need to run services?
- Will the options help in recruiting nurses, other clinical staff and support staff (such as porters)?
- What will the options mean for people's travel times?
- How will the options impact on the local communities in South Gloucestershire and North Bristol?
- Will the options provide high quality modern buildings, which provide the best environment for patients to recover from their illness?
- How quickly and easily can we implement the option?
- How flexible are the options, so that if things change in the future we can still meet patients' needs?
- Will the options be good value for money?

Prior to consultation and throughout the process the local NHS worked with the Joint Health Scrutiny Committee (JHSC), comprising members from the Councils principally affected by the proposals – Bristol City, South Gloucestershire and North Somerset. Before the start of the consultation process, the local NHS agreed with the JHSC on a consultation strategy and process for the Bristol Health Services Plan.

The JHSC held 7 meetings from July 2004 until February 2005 and took evidence from a wide range of organisations, and visited relevant sites. Clinicians and senior managers from the local NHS attended these meetings, and also the respective Councils' own Health Scrutiny Committees.

Following the completion of the consultation process, the local NHS prepared a report on the outcomes of consultation in January 2005 which it submitted to the Joint Health Scrutiny Committee (JHSC).

The JHSC responded formally to the consultation proposals in its report in February 2005 with a series of recommendations. This stated the JHSC's support for the criteria to be used for the selection of the acute site.

The recommendations of the JHSC were then addressed in the Bristol Health Services Plan Assessment Report, which was prepared by the local NHS to inform decision making by Boards in March 2005. A Joint Decision Making Committee of local organisations met on 14 March 2005 to consider the recommendations as set out in this report. The organisations comprising the committee were:

- Bristol North PCT
- North Bristol NHS Trust
- North Somerset PCT
- Bristol South and West PCT
- United Bristol Healthcare Trust (UBHT)
- South Gloucestershire PCT

Following on from the decision making process, and in the context of concerns expressed by local residents about the location of the major acute hospital, the South Gloucestershire Health Scrutiny met on 6th July to consider the conclusions of the

Joint Decision Making Committee. The Sub-Committee concluded that it would write to the Secretary of State for Health to request that she should refer the decision on the selection of the major acute hospital site to the Independent Reconfiguration Panel. In support of this request the Sub-Committee cited five grounds which they argued demonstrated there had been inadequate consultation and flawed decision-making.

In response to the letter sent to the Secretary of State by the South Gloucestershire Sub- Committee, the equivalent Scrutiny Committee's in Bristol City and North Somerset wrote to the Secretary of State opposing the South Gloucestershire position. In addition, support for the decision to select the Southmead site for the major acute hospital was reiterated by the NBT Patient and Public Involvement Forum (PPIF), the NBT Medical Advisory Committee and the NBT Joint Union Committee.

On October 21st 2005 Lord Warner responded on behalf of the Secretary of State to the letter from the South Gloucestershire Health Scrutiny Sub-Committee. The letter from Lord Warner considered the five grounds presented by the Sub-Committee and concluded that he could see no reason to refer the decision to the Independent Reconfiguration Panel.

An integral part of involving the public in this project has been through the OBC Public Involvement Group. It was first established in May 2004. The group has helped shape the development of the project by discussing issues such as finance, changing hospital services, transport and access, option appraisal process [via two workshops which assisted in designing effective criteria to assist the public to differentiate between the options and lay out of the BHSP Consultation Document], direct input into Project Board discussions via a Project Board Template that enabled the Group to ask questions and receive responses and later by two Public Involvement Group Representatives sitting on the Project Board from February 2004 onwards].

Post decisions being taken in March 2005, the Group has discussed the terms of reference for the adadditional transport and access worked requested by the SHA, the outline planning process, bed modelling, design work and option appraisal. The Group had 25% voting rights in the non-financial option appraisal process.

Representatives of the Public Involvement Group are members of the Design Group and will participate in the Gateway Reviews. It is intended that they will also be represented on the Clinical Development Steering Committee which oversees the work of the clinical Development Groups.

A Clinical Model of Care workshop was also held in September 2005, so that the Group could help shape the new model of care.

Besides working closely with this Public Involvement Group, regular updates have also been given to NBT's Patient Panel, a voluntary body which represents patients' interests, NBT's Patient and Public Involvement Forum, and staff. Appendix 6 sets out the Communication Strategy and Implementation Plan.

2.6 SUMMARY 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. To underpin this change programme, the Trusts have developed a new clinical model to govern the way that services are provided and have then assessed the impact this model will have on future demand and capacity. This work is explained in Part B.

PART B: FUTURE SERVICE MODEL AND CASE FOR CHANGE

SECTION 3: MODEL OF HEALTHCARE PROVISION

3.1 INTRODUCTION

3.1.1 Purpose

This section describes the underlying strategy for the OBC development, which has been created through a joint process between the PCTs and NBT leading up to and following the sign-off of a Strategic Outline Case in July 2004. This work builds on the high level clinical model which was formulated as part of the Strategic Outline Case and sets out a greater level of detail. This strategy is a close relative of the BHSP strategic clinical model and develops the BHSP themes into a local model for NBSG.

The purpose of this clinical strategy is to provide a context for a major rethink of how local health services are provided and how the new hospital will look. The intention is to develop this strategy from a patient's perspective and is intended to lead to:

- An implementation plan to put in place the proposed strategy
- A specification for the new hospital 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 when 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 Trusts become Foundation Trusts.

This model should be used to help any restructuring process by testing whether the proposed restructure produces a configuration of services capable of delivering the clinical strategy.

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 2 main strategic areas:

- The provision of a local health 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. 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 UBHT and looks at how these specialties can be configured across the acute trusts to add to the quality of local services.

3.1.2 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 to prevent inefficiencies, gaps in provision, delays and duplication of effort;
- 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;
- Provide a vibrant learning and education culture that benefits clinical services;
- Improve the efficiency and value for money of services.
- Enable local services to respond to national initiatives including Patient Choice and 'Creating a Patient-Led NHS'

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

3.1.3 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:

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. The aim is to work together to provide better care for our patients;
- **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 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.

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, e.g. fast tracking elective surgical patients through the acute phase of their care).
- **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. There will be mechanisms in place to ensure clear lines of responsibility and accountability for care across organisations. These mechanisms will be described as each system or service is developed in more detail.

3.1.4 Scope

This strategy is based on a 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 2 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 a bed, based upon capacity.
- Potential to open or close operating theatres at either site for periods 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 distance.
- Joint 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 economies of scale can lead to more efficient working and safer outcomes e.g. children's services, head and neck services and pathology.

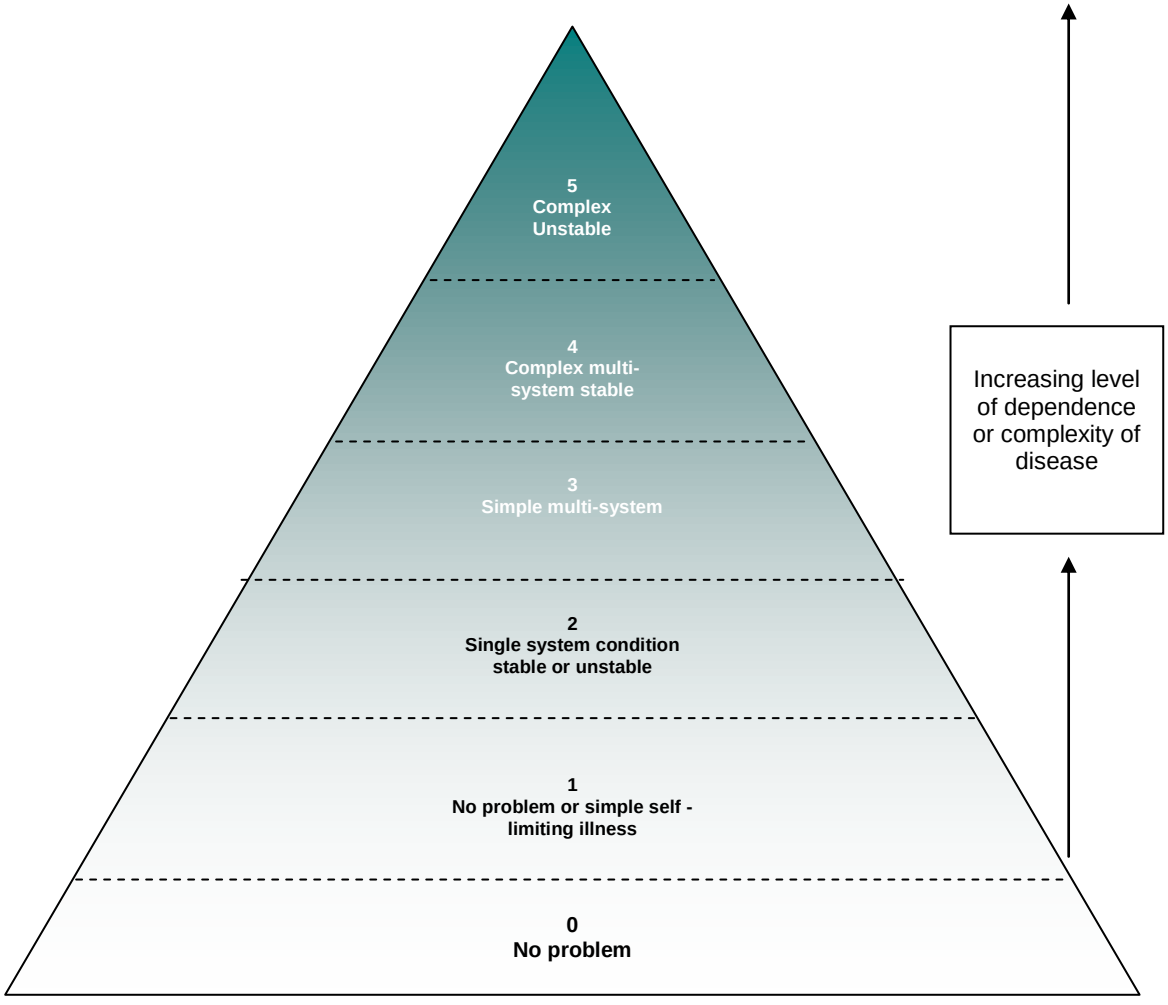
3.2 MAIN STREAMS OF PATIENTS

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 these 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.

3.2.1 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.

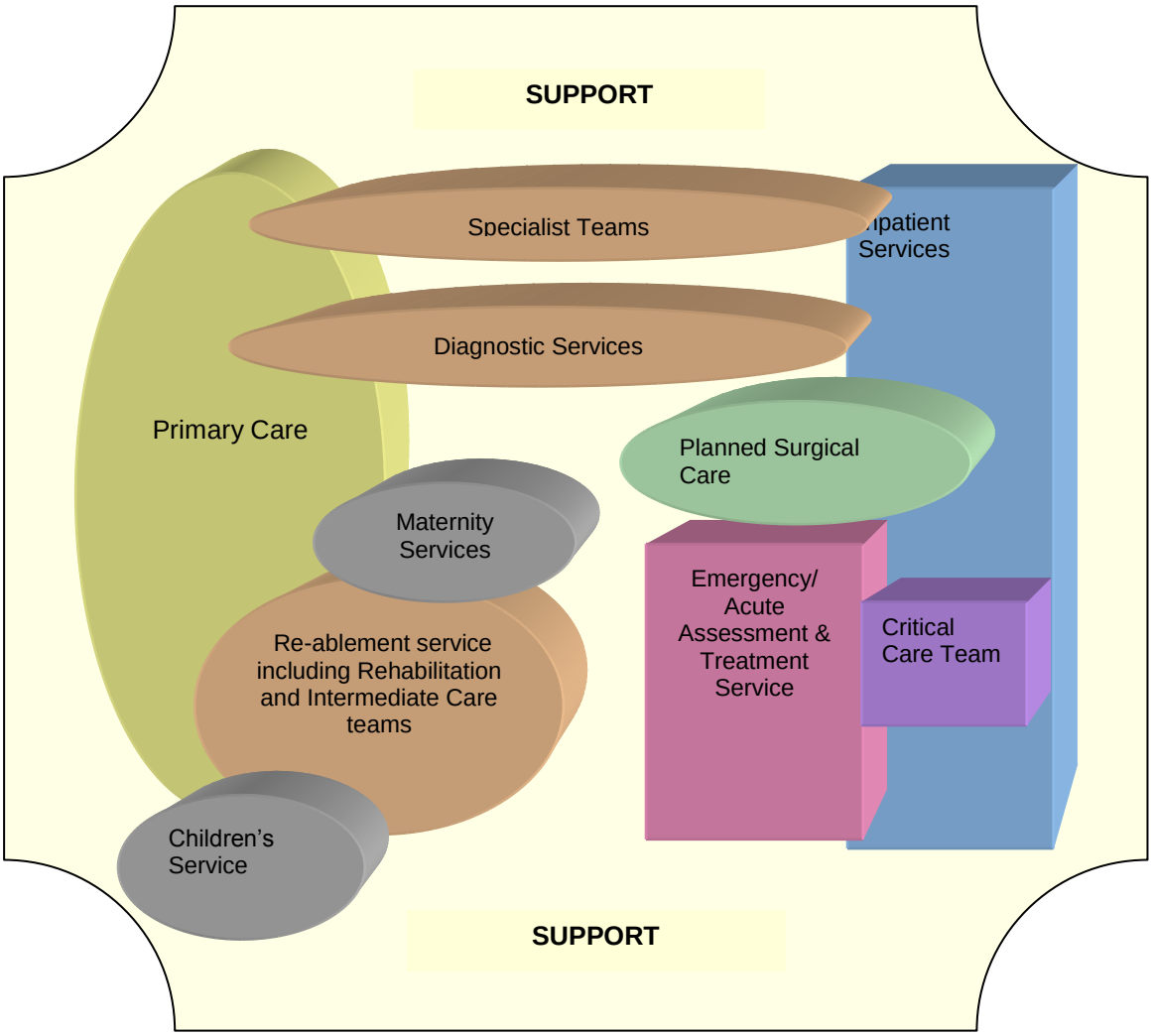
3.3 MAIN SYSTEMS

3.3.1 Summary

The new Health system in North Bristol and South Gloucestershire is built up of a number of systems. These are not distinct and separate systems but will overlap and work together so that there will not be hand-offs and difficult transfers of care for individuals. The systems are listed below:

i) A strengthened **Primary Care** system;
ii) An integrated **Re-Ablement** service for North Bristol and South Gloucestershire including rehabilitation and intermediate care;
iii) A range of **Specialist Teams** combining hospital and community expertise;
iv) A comprehensive **Urgent Care** network
v) An **Emergency/Acute Assessment and Treatment Service;**
vi) A strengthened **Critical Care Team;**
vii) Flexible I**npatient services;**
viii) A systematic **Planned Surgical Service**;
ix) A community based health and social **Children's Service;**
x) Rapid response **Diagnostic Services;**
xi) Responsive **Support Services.**

These systems are summarised in the following diagram:



3.3.2 A Strengthened Primary Care System

Primary care will be a fundamental part of all the care systems and will be 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 locally based facilities which will be in place to support them to do this.

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 cooperative 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.

3.3.3 Integrated Re-Ablement system for North Bristol and South Gloucestershire

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 that will be used to rehabilitate patients.

The service will have 3 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 pulling people back towards home once they have attended and been admitted to hospital;
- 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.

3.3.4 A Range of Networked Specialist Teams Combining Hospital and Community Expertise

The local population will be served by a series of specialist teams with strong community focus whose function will be to provide a seamless and integrated service for patients all the way from prevention and promotion through to intensive care and support. These teams will support the delivery of primary care services when specific specialist support is required and will improve the capacity of local services to manage populations of patients with specific conditions (or with the potential to acquire these 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, full spectrum service for a patient population or specialty area (e.g. respiratory services to include consultants, physiotherapists, admin staff, nurses, General Practitioners with Special Interests (GPSI) and expert patients).
- Systemisation of these team activities so that a continuous service can be provided to patients in acute and community settings (e.g. 1 consultant being in charge of acute duties 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 with on-going care provided closer to the patient's home.
- 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 pulling people back towards home once they have attended and been admitted to hospital.
- No-wait services without backlogs 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.

3.3.5 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, or in the minor injuries unit/walk in centre and in the case of minor illness or injury (including, for example, simple fractures), 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 (see below).

This service will incorporate out-of-hours GP teams and a network of facilities based in other community centres, such as Central and East Bristol Community Healthcare Centre. 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.

3.3.6 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 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 dedicated staff.

The main features of the new service will be:

- A see and treat principle.
- A multi-disciplinary approach.
- Integrated working between ED department and Acute Assessment team.
- Concentrated on processing patients and preventing admission into inpatient beds.
- Ability to hold patients until a clear decision is made.
- Principle that this service initiates the hospital based care pathway.
- Assessment and stabilisation of children prior to transfer.

3.3.7 A Strengthened Critical Care Team

This team will have a central core of high intensity services that will support the other teams. The team will run a central area 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 ward patients across all specialties and diagnoses;
- Networks of critical care provision; the new service will work in harmony with services at UBHT and other nearby hospitals, and has a responsibility to provide its share of sector-wide level 3 bed requirements. Inbound transfers due to external requirements for level 3 beds to support other Trusts, will form a small but significant route of entry to the hospital;
- 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. The intensivists will work closely with the emergency and acute specialists and with individual surgeons and physicians who have patients on the unit.

3.3.8 A Flexible Inpatient Service

This service will be run as a single aggregated service that is capable of moving patients through quickly, safely and efficiently, and that 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 areas of specialism will, however, be fluid.

The key features of the service are:

- In order to preserve maximum flexibility of bed use, there will be no ring-fencing of elective and emergency beds;
- A bed and theatre slot will be pre-booked for the 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.

3.3.9 A Systematic Planned Surgical Service

There will be whole-system 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 on systematic 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 minor 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 to ensure minimum time in hospital;
- Enhanced home support pre and post admission from the surgical teams to supplement general Primary Care support

3.3.10 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.

3.3.11 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.

3.4 PATIENT FLOWS THROUGH SYSTEMS

3.4.1 Summary

This section looks at examples of how the patient groupings identified in section 2 interact with the new health system outlined in section 3**.**

3.4.2 Example 1: First time patient with single system condition

Traditional System	New Health System
A patient presents to a GP with a potential condition requiring some kind of specialist or additional diagnostic back-up to decision-making. The GP has little specialist back up directly to hand and therefore is likely to refer the patient to outpatients to see a specialist. The GP may have to choose between an emergency admission and a several-week wait for an outpatient appointment.	The GP will have access to immediate support from specialists in the **Specialist Teams** by e-mail or telephone together with access to rapid reporting diagnostics. The GP may therefore be able to diagnose the potential problem without a formal hand-over of care to the hospital.
The threshold for this referral will depend on the GP and their approach, knowledge and experience.	The GP as part of the **Enhanced Primary Care** system will have access to PCT guidelines on the approach to take together with advice and support from PwSI. This should produce a more equitable access to the service for the patient.
The patient may then be put on a queue of several weeks.	If a specialist opinion is required it will be accessed rapidly within the next 1-2weeks from the **Specialist Team** and the patient will potentially have a 1-stop assessment of their requirements with an immediate diagnosis.

3.4.3 Example 2: Single system condition becomes long term unstable

The patient in the above example may graduate to a long term patient and their care might change as follows:

Traditional System	New Health System
Where a problem occurred such as exacerbation of the condition the patient might see their GP.	The patient is likely to have a greater understanding of their problem and will be more assertive in contacting services. Better case management will provide continuing support and integrated care. This will be provided by the **Primary Care** Team, including pharmacy, social services, voluntary agencies and carers, district nursing and community matrons, and from the **Specialist Team** including PwSI and nurse practitioner.
The GP may refer to a specialist and the patient may be put on a waiting list. During this time the exacerbation might worsen and they may get admitted to hospital through A&E.	The specialist assessment and treatment will be accessed immediately from the **Specialist Team** either by the GP or the PwSI and this should minimise the need to turn up as a hospital emergency.
Whilst in hospital, access to previous care plans, patient history can be limited.	If the patient does have an acute attack, they could contact a nurse practitioner within the **Specialist Team** who may be able to provide medication adjustments/other interventions that prevent admission. If admission is still necessary, the case manager, who knows the patient, will be able to liaise with staff in the **Emergency and Acute assessment service** to case manage the treatment.
Although very sick, the patient may end up on a ward with less sick patients on the basis of age or specialty rather than any criteria of need.	Whilst they are very ill, the patient will be nursed by the **Critical Care Team** with staff whose main skill-set is the treatment of sick patients.
Planning the discharge for the patient can start quite late in the inpatient process leading to delays.	The process of recovery and return to home will be case managed for the patient as soon as the crisis arises by the practitioner in the **Specialist Team**.
Once back at home, the patient does not have access to ongoing specialist support for their condition and they may have little information or knowledge of their problem. This could lead to a delay in returning to home where there is little support and also a repeat of the exacerbation and hospital admission.	The patient will receive support at home from the community arm of the **Specialist Team.**

3.4.4 Example 3: Complex multi-system unstable patient

Traditional System	New Health System
A person with complex long term problems and an equally frail carer has support from a variety of sources including social services, district nursing general practitioner, and occupational therapist. These interventions are not always co-ordinated.	The patient will have an identified case manager who will ensure that interventions are orchestrated and that the patient receives a continuous network of support. This case manager will be part of the re-ablement team.

Should the person have a problem due to a fall or exacerbation of an existing condition they may be admitted to hospital through A&E. They may then have their immediate problem fixed and be admitted to hospital but there may not be any reference to an existing care plan.	The case manager in the re-ablement team will organise a care plan as soon as the problem occurs. This plan will be co-ordinated with the various agencies involved in the patient's care.
The patient's stay in hospital may take several weeks and they may lose their independence altogether. There will be a risk of infection for the patient and there may be other problems in getting the carer confident about supporting the patient once they have returned home.	The episode will involve a brief stay in the acute hospital followed by rehabilitation in the community hospital run by the re-ablement team and then return to home. During the stay in hospital, the route home will be planned carefully and will take into account support required for the carer.
The process of care will be very stop start with no sense of an overall co-ordinated plan between social, primary and secondary care.	The whole episode will be characterised by an individually tailored care plan that runs through the whole process of care and that takes into account both health and social needs.

3.4.5 Example 4: Planned surgical patient

The example below refers to a patient with a relatively minor condition.

Traditional System	New Health System
A GP is presented with a patient where they are fairly clear as to the condition but it may take a few weeks to access the diagnostic test result required to confirm the opinion (or they may not be able to access the test directly).	The GP will be able to organise diagnostic tests and get an immediate diagnostic result to confirm their assessment. There will be clear protocolised guidance to allow consistent decision-making across the area
The GP may refer to an individual specialist and the patient put on a waiting list. The specialist may require the patient to undergo a diagnostic test after they have attended for a consultation and then return again for a further consultation.	The GP will be able to refer into a general pool for a particular condition and book the patient into a one-stop assessment and treatment clinic where the patient will be assessed, diagnosed and have a procedure where necessary in one visit. The pre-assessment processes will be conducted at home or by the **Primary Care** team.

Where the patient has a more serious condition the first part of the pathway will be the same but there will be additional steps as follows:

Traditional System	New Health System
Once the patient has been assessed for an operation they will be placed on a waiting list and will remain there largely unmanaged until the date of operation. Pre-assessment processes undertaken in this period tend to be one-off exercises and cancellations of the operation can occur due to inadequate planning	Under the new system the **Planned Surgical Service** will provide case management of the patient and the pre-assessment process will be more of an on-going process that will bring the patient to the point of operation in a planned and methodical way.

The operation may be cancelled due to organisational issues such as bed availability. This can lead to patients being admitted in advance of the operation in order to secure the bed.	The new **Planned Surgical** service will ensure that a bed and a theatre are booked for the operation and that there are no organisational cancellations. The patient will turn up on the day of operation where clinically appropriate and will arrive at a dedicated receiving area.
The patient may stay in hospital for 2-3weeks and there may be some issues in discharging the patient back home. The process of recovery and rehabilitation may not start immediately after the operation.	The patient will undergo a fast-track surgical process including optimised anaesthesia such as neural blockade and regionalised anaesthesia, minimally invasive surgery and intensive therapy and rehabilitation for the patient. This will lead to the patient having lengths of stay of a few days in hospital followed by support at home or in community hospital by the re-ablement team.

3.4.6 Example 5: Patient with Minor Injury/Illness

Traditional System	New Health System
A patient with a minor injury/illness may contact NHS Direct, GP OOH services or the A&E department and receive differing levels of treatment and approach.	The new system will provide a consistent level of service across the area for patients with a minor illness or injury. A higher proportion of their care can be managed in a community setting due to the development of extended roles and a network system.
A patient attending A&E with a minor problem will receive a treatment to solve the immediate problem but if they have more long-standing conditions, they may not get these resolved.	A patient attending the minor illness/injury service can have their short-term condition managed and appropriately linked with the **Primary Care** team to ensure that their long term condition is reviewed.

3.5 IMPLICATIONS FOR THE WORKFORCE

The new clinical system has significant implications throughout the workforce which have been assessed by a joint “Cluster” group working in co-ordination with the BHSP-wide workforce panel.

The first, and predominant feature, is that the NHS workforce throughout the country will anyway undergo considerable development in the years ahead through the benefits realisation of the flexibilities created by Agenda for Change, and our challenge will be to ensure that there is mutual strength gained by integrating workforce developments with changes required to support the models of care. The key issue for the workforce is how the recruitment, retention and development of staff needs to adjust to ensure that the agreed models of care can be delivered. Key features include staff development, sustaining the changes expected and full utilisation of Agenda for Change as a catalyst for redesigning roles within a competency framework.

We should expect significant role redesign and skill mix with a radical review of which roles deliver specific aspects of care. Consideration needs to be made in regard to IT systems, improved processes, strategic outsourcing of services within the plurality of providers’ context and the development of speciality teams working across organisational boundaries. More groups of staff will become “peripatetic”, following the patient through the whole care pathway

The main themes that arise from the proposed models of care are:

- The premise that primary care will be the co-ordinating aspect of care.
- That there will be plurality of providers who provide care within a primary and community setting.
- Break-up of traditional functional departments into new services will require re-adjustment of some professional boundaries e.g. relationship between acute/medical assessment and A&E.

- Integration of working between primary and secondary care sectors will lead to new role definitions e.g. role of GP in minor injuries/illness.
- An increased emphasis on competence-based and cross-organisational team-working as opposed to hierarchical and organisational systems.
- The focus on active rehabilitation and fast-track recovery will reinforce the role of therapists and nurses with rehabilitation skills.
- Creation of fairly generic departments and teams will lead to a degree of multi-skilling.
- Development of the bed-cluster within the acute hospital rather than the speciality-specific ward, will require greater flexibility.
- Introduction of a more fluid interface between specialists and GPs will require a more flexible and qualified administration team;
- The increasing emphasis on do-now diagnostics requires a diagnostic team that identifies with the patient processes as a whole as opposed to the processes within the department. There is a real issue around incentivisation and alignment with overall organisational goals.
- The increasing integration between health and social care and the advent of practice based commissioning.

3.6 SUMMARY

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.

This new clinical model is built to respond to the changes in demand, described more in the following section, and demands changes to the physical environment to enable successful implementation. This requirement for change is summarised in Section 5.

SECTION 4: ACTIVITY AND CAPACITY

4.1 INTRODUCTION

This section describes how the health community has assessed 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, demand, as well as performance improvements.

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 overall conclusion the health community has come to in terms of the capacity it will require to be delivered from the acute and community hospital proposals for Southmead and Frenchay.

4.2 DEMAND AND CAPACITY

This section takes account of the very detailed activity and capacity analysis which has been developed across the local health community. The assumptions and projections used in the development of the activity and capacity modeling have been agreed across the health community and take account of national information on demographic change. The activity modeling for the future, which has derived the capacity to be provided in the new development within the scope of this OBC, has taken account of the following factors:

- Trends in the population.
- Historic growth in demand.
- Demographic growth.
- Likely levels of alternatives to admission or consultation in an acute setting.
- Agreed service transfers between acute trusts.
- Transfers of services to community settings.
- Transfers to independent sector treatment centres (ISTCs).
- Changes in acute flows across the city driven by the location of the acute Trusts in Bristol in the future.
- Changes in clinical practice.

4.2.1 Population Trends

Avon, Gloucestershire and Wiltshire Health Authority (AGW) Strategic Health Authority covers a population of 2.2 million. Within this Health Authority, the Bristol, North Somerset and South Gloucestershire health community has a population of around 840,000.

The population for the NBT catchment within BNSSG is projected to increase from 402,000 to 424,000 during the period 2004/05 to 2013/14 (5.5%). The age weighted population (taking account of higher health needs of elderly people) is projected to increase by 8.9% over the same period. This is an annual increase of 0.9%.

When calculating the growth in population, the Trusts have considered local council plans for housing developments within the Bristol area. The Government's Regional Association is currently drafting plans for their Regional Spatial Strategy, which will cover the period 2006-2026. This report has not yet been published. However, the Trust has discussed proposed local housing developments within NBT's catchment area, with the local council, and believes that these developments are reasonably consistent with the ONS population growth in the table below.

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The relevant unweighted and weighted population statistics for 2004 and projected to 2013/14 are shown in Tables 4.2.1i and 4.2.1ii and also in Appendix 7.

Table 4.2.1i:: 2004 Unweighted and weighted population ('000)

	City of Bristol '000	Bristol North PCT '000	Bristol South & West PCT '000	South Glos PCT '000	North Somerset PCT '000	Total '000
Unweighted population	391.9	205.3	186.6	248.9	193.1	833.9
Weighted population	387.0	202.7	184.3	244.8	207.9	839.7
% Relating to NBT	-	62%	15%	80%	25%	-
NBT unweighted population	-	126.7	28.0	199.1	48.3	402.0
NBT Weighted Population	-	125.1	27.6	195.8	52.0	400.5

Table 4.2.1ii:: 2012/13 Unweighted and weighted population ('000)

	City of Bristol '000	Bristol North PCT '000	Bristol South & West PCT '000	South Glos PCT '000	North Somerset PCT '000	Total '000
Unweighted population	403.0	211.1	191.9	266.5	208.2	877.7
Weighted population	398.2	208.6	189.6	275.6	233.6	907.4
% Relating to NBT	-	62%	15%	80%	25%	-
NBT Unweighted Population	-	130.2	28.8	213.2	52.1	424.3
NBT Weighted Population	-	128.7	28.4	220.5	58.4	436.0

Unweighted Population

% increase	-	2.8%	2.8%	7.1%	7.8%	5.5%
Annual increase	-	0.3%	0.3%	0.8%	0.8%	0.6%

Weighted Population

% increase	-	2.9%	2.9%	12.6%	12.4%	8.9%
Annual increase	-	0.3%	0.3%	1.3%	1.3%	0.9%

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 core renal service through to 2.5 million for core neurosurgery. Some individual sub-specialty areas have very wide catchment areas populations. Approximately 11% of NBT activity is from outside BNSSG and accounts for 19% of PCT income.

4.2.2 Historic growth

The base year for future activity projections is actual activity undertaken in 2004/5. The starting point for assessing growth in activity from the 2004/5 base is historical annual growth trends over the last 7 years. These growth trends have been reviewed and adjusted to take account of local clinical knowledge. The base activity and the adjusted growth projections from 2004/5 to 2013/14 are summarised in the tables below and shown in detail in Appendix 8.

Table: 4.2.2i - Growth in inpatient and daycase demand 2004-05 to 2013/14

	2004-05 actual activity	Adjusted historical growth	Impact of alternatives to acute care	2013-14 projected activity before transfers
Elective IP/DC	50,807	6,594	-772	56,629
Non-elective IP	61,601	13,467	-8,280	66,788
Total IP activity	112,408	20,061	-9,052	123,417

Table: 4.2.2ii - Growth in outpatient demand 2004-05 to 2013/14

	2004-05 actual activity	Adjusted historical growth	Impact of alternatives to acute care	2013-14 projected activity before transfers
New OP appts	90,529	26,154	-17,517	99,166
Follow-up OP appts	224,168	78,613	-37,954	264,827
Total OP appts	314,697	104,767	-55,471	363,993

4.2.3 Alternatives to acute care

Over the 7 year historical reference period, initiatives to provide alternatives to acute care have been very limited. The future plans set out by the local PCTs include a greater range of services to be provided in the community. This will have the effect of reducing the rate of growth in demand for acute care, particularly in relation to outpatient and emergency inpatient activity.

In respect of outpatient demand, a phased programme between 2005/06 and 2013/14 will mean that by 2013/14, the PCTs plan to avoid a growth in total outpatient activity of 18%. This will be achieved as a result of two key strategies. Firstly, new specialist roles will be developed in primary care to triage appropriate patients and building on some roles already established. The main specialty areas include: -

- Cardiology
- Neurosurgery
- Pain Management
- Urology
- Orthopaedic
- ENT

- Diabetes
- Neurology
- Rheumatology
- Dermatology

This strategy will be developed by PCTs providing extensive support to practices in establishing and implementing practice based commissioning. Initial plans of local consortia highlight that practices are seeking to improve outpatient referral processes and to manage more follow up care in primary care. Over the next five years, there will be increased use of protocols, additional clinical professional development and greater focus on patients being discharged back to primary health care teams.

Secondly, it is planned that as a consequence of these new organisational arrangements, the growth in referral rates and usage of follow up activity by members of GP commissioning consortia, will reduce in comparison with historical trends. The main specialty areas are:

- Orthopaedics
- Respiratory medicine
- Dermatology
- ENT
- Rheumatology
- Urology
- Diabetes
- Care of the Elderly

In respect of inpatient activity to be avoided, the PCTs have already invested in schemes such as advanced primary nursing and expanded intermediate care services. These are already helping to reduce growth in emergency admissions. The PCTs have a number of further schemes covering areas such as falls prevention, podiatry, community based urology re-catheterisation, expansion of Rapid Response and Parkinson's Disease services. The PCTs project that the expansion of existing services together with the establishment of new services means that by 2013/14, community alternatives will prevent 8,280 emergency admissions that otherwise would have occurred. This equates to a 13% reduction in the historic level of growth by 2013/14.

Table 4.2.3 sets out the projected impact of the increased availability of alternatives to acute care in offsetting historic growth on total inpatient activity.

Table 4.2.3: Total Inpatient Activity 2004-05 to 2013/14

All PCTs	2004-05 Actual activity	Adjusted historical growth		Impact of Alternatives to Acute Care		2013-14 projected activity before transfers
Specialty	**FCEs**	**FCEs**	**%**	**FCEs**	**%**	**FCEs**
General Surgery	13,298	-628	-5%	-151	-1%	12,519
Urology	8,144	1,684	21%	-248	-3%	9,580
Trauma & Orthopaedics	9,038	1,967	22%	-275	-3%	10,730
ENT	2,457	502	20%	-28	-1%	2,931
Oral Surgery	958	-59	-6%	-7	-1%	892
Neurosurgery	3,617	670	19%	-10	0%	4,277
Plastic Surgery	7,177	1,568	22%	-68	-1%	8,677
Paediatric Surgery	218	0	0%	-3	-1%	215
Accident & Emergency	1,425	499	35%	-127	-9%	1,797
Anaesthetics	1	0	0%	0	0%	1
Pain Management	1,335	306	23%	-27	-2%	1,614
General Medicine	32,223	9,140	28%	-7,844	-24%	33,519
Clinical Haematology	3,339	615	18%	-59	-2%	3,895
Immunology	715	151	21%	-18	-3%	848
Infectious Diseases	128	66	52%	0	0%	194
Nephrology	3,703	797	22%	-45	-1%	4,455
Neurology	1,470	490	33%	-41	-3%	1,919
Rheumatology	494	41	8%	-4	-1%	531
Paediatrics	3,861	554	14%	-54	-1%	4,361
Paediatric Neurology	184	271	147%	-3	-2%	452
Neonatology/SCBU	673	0	0%	0	0%	673
Obstetrics	13,172	1,889	14%	0	0%	15,061
Gynaecology	4,535	-462	-10%	-39	-1%	4,034
Neuropsychiatry	207	0	0%	-1	0%	206
Child and Adolescent Psychiatry	36	0	0%	0	0%	36
Total	**112,408**	**20,061**	**18%**	**-9,052**	**-8%**	**123,417**

4.2.4 Planned growth – acute hospital

The activity modelling that has generated the capacity required for the new acute hospital development based on growth in activity from 2004/05 to 2013/14, is based on the historic growth trends described in section 4.2.2. This has been offset by the impact of increased availability of alternatives to acute care described in section 4.2.3. The detailed build up of the projections by specialty and patient type is shown in Appendix 8. A breakdown of the planned growth by PCT is shown in Appendix 9. Both Appendices incorporate an assessment of growth in activity from outside the BNSSG health community.

The resulting overall planned growth for inpatients and daycases is summarised as: -

Table: 4.2.4 – Planned growth for inpatients and daycases

	Annual Growth Per Year %	Cumulative Growth 2004/05 – 2013/14 %
Historic projected growth (adjusted for local clinical knowledge)	1.9	17.9
Impact of alternatives to acute care	(0.9)	(8.1)
Resulting planned growth	**1.0**	**9.8**

The resulting planned growth in activity (9.8%) is greater than the projected growth in age weighted population over the same period (8.9%). Essentially the initiatives to increase the availability of alternatives to acute care are projected to reduce the historically high level of activity growth and bring it more in line with underlying

population growth.

4.2.5 Transfers

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

4.2.5.1 Service Transfers within the Bristol Health Services Plan (BHSP)

The transfers of services between acute trusts previously identified within the wider BHSP proposals that are due to take place between 2005/6 and 2013/14 are summarised below. The impact of all of these service transfers has been quantified and built in to the assessment of activity transfers:

- ENT inpatients and daycases and OMF inpatients services transferring from UBHT to NBT (planned transfer in 2008/09)
- Inpatient breast surgery services transferring from NBT to UBHT (2008/09)
- Inpatient and daycase general paediatric services transferring from NBT to UBHT (2006/07)
- Inpatient and daycases specialist paediatric services transferring from NBT to UBHT (2011/12)
- Inpatient and daycase interventional cardiology services being provided by both NBT and UBHT for their local populations (currently provided by just UBHT) (2007/08)

The impact on outpatients is minimal and keeping the outpatient element of these services at a local level is seen as a high priority. The only outpatient services that are transferring are paediatric rheumatology and cleft lip and palate services. These services require a strong connection to the paediatric inpatient service so that separating the services would result in both poor patient care and a severe duplication of resources across the city.

4.2.5.2 Transfers to community settings

Detailed work has been completed 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 have been generated from hospital data which have taken account of the assumed proportions of current inpatient stays that would require step-down care. The tables set out in Appendix 6 take account of the reduced lengths of stay for patients appropriate for the community but do not show a full FCE transfer to the community as the early part of the admission will be held in the acute hospital. This has been corroborated by a review of data derived from a detailed point prevalence study which assessed the care requirements of all patients in NBT beds over a given period. This

study showed that approximately 100 patients could be have been treated in an alternative facility such as a community hospital providing 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: 4.2.5.2i

	Frenchay Community Hospital	Southmead Community Hospital
Stroke rehabilitation Care for patients after acute stroke care and once they are medically stable (for the NB/SG population)	30 beds	
Admission avoidance Care for patients that require admission to a safe environment but do not require high level medical input (input from visiting medical staff such as GPs with Special Interests. These beds will predominantly be nurse/ therapy lead		10 beds
General rehabilitation The patients in these beds will typically be frail older people who require intensive therapeutic input to enable them to return home or be placed in a lower care setting (e.g. residential rather than nursing care). Typical specialties from which these patients step down will be general medicine (care of the elderly), particularly where patients have complex multifactoral needs, and trauma. In all cases, transfer would only take place once patients were medically stable.	54 beds	22 beds
Total	**84 beds**	**32 beds**

Outpatients: Specialty-based discussions have taken place between clinicians from primary and secondary care and agreement has been reached on the level and types of outpatient activity that can be transferred to community settings by 2013/14. These are summarised in the table below:

Table: 4.2.5.2ii

2013-14 OP appointments	Transfers to Frenchay Community Hospital	Transfers to Southmead Community Hospital	Transfers to other community settings	Total planned activity in acute setting 2013-14
New OP appts	3,212	6,552	13,897	65,553
Follow-up OP appts	10,029	19,690	39,930	158,705
Total OP appts	**13,241**	**26,242**	**53,827**	224,258

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

Minor Injuries Units: All minor injuries attendances are assumed to transfer to community settings by 2013/14. This represents approximately 56% of all accident and emergency department attendances.

Table 4.2.5.2iii: Diagnostic services: Acute Hospital

Diagnostic facilities	Total Examinations	Total Rooms
2004/05 Acute hospital activity	291,616	47
Projected growth	79,857	
Transfers to the independent sector	-11,748	
Transfers to the community	-117,066	
2013-14 acute hospital activity	**242,659**	**33**

Table 4.2.5.2iv:: Diagnostic services: Community Hospitals

Diagnostic facilities	Total Examinations	Total Rooms
2013/14 Southmead Community Hospital	33,661	3
2013/14 Frenchay Community Hospital	19,953	3
Total	**53,614**	**6**

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.

4.2.5.3 Transfers to Independent Sector

NBSG has examined the level of relatively uncomplicated elective cases that could be transferred to the Independent Sector, taking account of the range of elective surgical procedures being undertaken by existing Independent Sector Treatment Centres (ISTCs). This level of non-complicated or "contestable" work is estimated to be around 23,000 cases per year by 2013/14 and is detailed in Appendix 10.

NBT have been advised by BNSSG PCTs to assume around £10 million of activity (inpatient and outpatient combined) transferring to an ISTC as part of Wave 2 of the National IS Procurement. (The total level of activity proposed to transfer to ISTCs in wave 2 for AGW is around £38million).

Therefore, an assessment of the proportion of contestable work, including an element of outpatient attendances, consistent with a £10m value has been established and included in the transfer assumptions.

Table: 4.2.5.3: Transfers to the independent sector

	Transfers to independent sector 2013/14
Elective IP/DC FCEs	-8,010
Non-elective IP FCEs	0
Total IP FCEs	**-8,010**

New OP appts	-8,095
Follow-up OP appts	-19,900
Total OP appts	**-27,995**

4.2.5.4 Acute Flows transfers

The decision to move to a single acute hospital in the North Bristol and South Gloucestershire area will result in a flow of patients to other acute trusts in the area.

This is due to the fact that for some of the patients currently being treated at Frenchay, hospitals other than Southmead would provide better access on the closure of Frenchay for acute admissions.

A piece of work was undertaken by the Avon Information Management and Technology Consortium which assessed this likely flow to other acute hospitals. The impact on both Emergency Department attendances and non-elective inpatient admissions is included in the transfer assumptions.

In addition to this outflow of work, Weston Area Health Trust (WAHT) have assessed that they will have a level of spare capacity by 2013/14 due to performance improvements and transfers to ISTCs, and have therefore identified a potential ability to treat more patients within their existing capacity. In response to this, PCTs are planning for patients from certain areas currently treated at either North Bristol Trust or UBHT to be treated instead at WAHT. NBSG has estimated the impact of this to be a transfer of 2,480 FCEs, and this has therefore also been incorporated into the transfer assumptions.

There is also flow of work anticipated to go to the Royal United Hospital in Bath on the same basis, but this is expected to be fully offset by a compensating flow of specialist cases back to NBT from the Bath area. Therefore, no net transfer to or from the RUH is assumed at this stage.

There is also an expectation that the level of specialised work flowing to NBT from outside the immediate area 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. The inflow associated with this work is incorporated into the transfer assumptions.

Table: 4.2.5.4 - Service transfers: Elective and non-elective inpatients

All PCTs	2013-14 projected activity before transfers	BHSP Service Transfers	Transfers to Independent sector	Acute flows to UBHT	Acute transfers to Weston	Acute flow of specialist work	Sub-total
Specialty	**FCEs**	**FCEs**	**FCEs**	**FCEs**	**FCEs**	**FCEs**	**FCEs**
General Surgery	12,519	-321	-2,163	-410	-1,269	0	8,356
Urology	9,580	-142	-1,520	0	-527	0	7,391
Trauma & Orthopaedics	10,730	-722	-1,808	-412	-689	0	7,099
ENT	2,931	1,044	-469	0	0	0	3,506
Oral Surgery	892	-262	-151	0	0	0	479
Neurosurgery	4,277	-805	0	0	0	609	4,081
Plastic Surgery	8,677	-1,612	-903	0	0	600	6,762
Paediatric Surgery	215	-215	0	0	0	0	0
A&E	1,797	-30	0	-35	-2	0	1,730
Anaesthetics	1	0	0	0	0	0	1
Pain Management	1,614	-2	0	0	0	0	1,612
General Medicine	33,519	4,131	-225	-3,122	-384	0	33,919
Clinical Haematology	3,895	-1	0	0	0	0	3,894
Immunology	848	-1	0	0	0	0	847
Infectious Diseases	194	0	0	0	0	0	194
Nephrology	4,455	0	0	0	0	515	4,970
Neurology	1,919	-10	0	0	0	0	1,909
Rheumatology	531	-101	0	0	0	0	430
Paediatrics	4,361	-4,361	0	0	0	0	0
Paediatric Neurology	452	-452	0	0	0	0	0
Neonatology / SCBU	673	0	0	0	0	0	673
Obstetrics	15,061	0	0	0	0	0	15,061
Gynaecology	4,034	0	-771	0	-234	0	3,029
Neuropsychiatry	206	0	0	0	0	0	206
Child and Adolescent Psychiatry	36	-23	0	0	0	0	13
Total	**123,417**	**-3,885**	**-8,010**	**-3,979**	**-3,105**	**1,724**	**106,162**

This section has set out the range of transfers that have been agreed across the health community. The detailed activity analysis at specialty level is set out in Appendix 10.

4.2.6 Demand and Capacity Summary

A detailed analysis of demand and capacity has been completed, taking account of the new model of care and of national policy. Growth assumptions have been adjusted for changes in demand and activity projections take account of transfers to other settings The changes in inpatient and outpatient activity relating to growth, alternatives to acute care and transfers are summarised in the table below :-

Table 4.2.6:: Summary of Activity to 2013/14

	Elective Inpatients & Daycases FCEs	Non-Elective Inpatients FCEs	Total Outpatients Attendances
2004/05 Activity	50,807	61,601	314,697
Growth to 2013/14	6,594	13,467	104,767
Demand Management	-772	-8,280	-55,471
SUB-TOTAL	56,629	66,788	363,993
BHSP service transfers	-202	-3,683	-2,027
Transfers to community settings	0	0	-93,310
Transfers to Independent Sector	-8,010	0	-27,995
Effect of acute flows	-826	-4,534	0
Change in clinical practice	0	0	-16,403
2013/14 projected activity	**47,591**	**58,571**	**224,258**
2013/14 activity in Community settings	0	0	93,310
2013/14 activity in acute settings	47.591	58,571	224,258

4.3 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 and theatres
- Outpatient new to follow-up ratios

Performance improvement assumptions are described in the following sections.

4.3.1 Length of Stay

For the majority of specialties, NBT is planning on a length of stay that is around the upper decile level of current performance, based on relevant benchmarks for general and specialised services. Where this has not been considered to be achievable, taking account of local circumstances and the uncertainties around some of the benchmarking information, a reduced level of performance has been planned. In these circumstances, planned performance is still at the current upper quartile or better.

A breakdown of the planned lengths of stay by specialty, split between elective and non-elective inpatients, follows in Tables 4.3.1i and 4.3.1ii.

Table 4.3.1i: Length of Stay Non-Elective

Non-elective

Specialty	2004-05 Actual	Benchmark Upper Quartile	Benchmark Upper Decile	2013-14 Proposed
General Surgery	6.0	4.6	4.1	4.1
Urology	4.7	3.9	3.2	3.2
Trauma & Orthopaedics	15.1	7.4	6.1	6.8
ENT	3.6	2.4	2.0	2.0
Oral Surgery	2.6	1.7	1.4	1.4
Neurosurgery	9.6	8.9	8.1	9.2
Plastic Surgery	4.0	2.4	1.7	3.0
A&E	0.3	0.5	0.4	0.4
Anaesthetics	N/A	4.5	2.5	2.5
Pain Management	1.0	4.5	2.5	2.5
General Medicine	8.1	5.9	5.0	5.3
Clinical Haematology	7.0	6.4	4.6	4.6
Immunology	12.7	11.3	11.3	11.3
Infectious Diseases	16.7	6.4	4.3	6.4
Nephrology	9.9	7.3	3.3	8.5
Neurology	12.9	9.6	7.2	7.2
Rheumatology	21.0	8.3	5.7	6.0
Neonatology/SCBU	16.0	N/A	N/A	13.5
Obstetrics	1.1	N/A	N/A	1.1
Gynaecology	1.8	1.4	1.0	1.0
Neuropsychiatry	30.7	29.7	21.2	25.0
Total	6.3	4.6	3.9	4.1

Table: 4.3.1ii - Length of Stay –Elective

Elective

Specialty	2004-05 Actual	Benchmark Upper Quartile	Benchmark Upper Decile	2013-14 Proposed
General Surgery	3.8	3.7	3.4	3.4
Urology	4.0	3.0	2.5	2.5
Trauma & Orthopaedics	5.5	4.5	3.9	4.3
ENT	2.1	1.1	1.0	1.4
Oral Surgery	2.6	1.2	0.7	0.7
Neurosurgery	5.6	5.3	4.3	5.3
Plastic Surgery	3.4	2.6	2.2	3.0
General Medicine	6.2	3.7	3.0	3.3
Clinical Haematology	3.1	3.9	2.5	2.5
Immunology	8.5	N/A	N/A	8.5
Infectious Diseases	9.3	3.6	2.4	8.0
Nephrology	5.2	2.7	1.7	4.2
Neurology	4.9	4.6	3.5	3.5
Rheumatology	8.8	5.4	3.0	5.0
Gynaecology	3.4	2.8	2.4	2.6
Neuropsychiatry	19.9	22.6	10.8	15.0
Total	4.7	3.8	3.1	3.8

For the community hospital, there is an assumption that length of stay will be between ten and fifteen days. This is based on best practice in other similar settings, together with NBT's current lengths of stay for these patients and likely improvements that can be made to this.

4.3.2 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 CHKS upper decile 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 4.3.2 sets out the current and proposed daycases rates by speciality.

Table 4.3.2: Daycase rates by specialty

Specialty	2004-05 Actual	Benchmark Upper Quartile	Benchmark Upper Decile	2013-14 Proposed
General Surgery	60%	65%	72%	72%
Urology	76%	75%	84%	84%
Trauma & Orthopaedics	23%	50%	58%	40%
ENT	15%	58%	99%	58%
Oral Surgery	73%	97%	99%	90%
Neurosurgery	12%	18%	37%	15%
Plastic Surgery	67%	96%	100%	80%
Pain Management	98%	100%	100%	100%
General Medicine	86%	89%	93%	93%
Clinical Haematology	99%	96%	98%	100%
Immunology	99%	100%	100%	100%
Infectious Diseases	19%	73%	88%	78%
Nephrology	61%	59%	92%	61%
Neurology	2%	85%	100%	85%
Rheumatology	9%	96%	99%	96%
Gynaecology	60%	72%	80%	80%
Neuropsychiatry	1%	3%	40%	11%
Total	**60%**	**73%**	**82%**	**74%**

4.3.3 Utilisation of beds and theatres

4.3.3.1 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 5 day operating
- An allowance for volatility in activity

The detailed assumptions and the resulting occupancy levels by specialty are shown in the tables below. The overall planned occupancy resulting is 77% for elective beds and 82.4% for non-elective beds, an overall level of 81.5%. This is consistent with the National Beds Inquiry which recognised that hospitals cannot operate efficiently if they have limited spare capacity. Limited capacity leads to difficulties in managing peaks and troughs in demand. It identified 82% as an optimal occupancy level.

Table: 4.3.3.1.i - Elective Inpatient Occupancy levels

Specialty	Base occupancy with 0.5 day turnover interval	5-day working adjustment	Volatility factor	Occupancy rate
General Surgery	87%	11%	2%	74%
Urology	83%	11%	2%	70%
Trauma & Orthopaedics	89%	11%	2%	76%
ENT	74%	11%	2%	60%
Oral Surgery	58%	11%	2%	45%
Neurosurgery	91%	11%	2%	78%
Plastic surgery	85%	11%	2%	72%
General Medicine	89%	0%	2%	87%
Infectious Diseases	94%	0%	2%	92%
Nephrology	89%	0%	2%	87%
Neurology	88%	0%	2%	86%
Rheumatology	91%	0%	2%	89%
Neonatology/SCBU	67%	0%	4%	63%
Obstetrics	67%	0%	4%	63%
Gynaecology	84%	11%	2%	71%
Neuropsychiatry	97%	0%	2%	95%
All specialties				**77.0%**

Table: 4.3.3.1.ii - Non-Elective Inpatient Occupancy levels

Specialty	Base occupancy with 0.5 day turnover interval	5-day working adjustment	Volatility factor	Occupancy rate
General Surgery	89%	0%	6%	83%
Urology	86%	0%	6%	81%
Trauma & Orthopaedics	93%	0%	6%	87%
ENT	80%	0%	6%	74%
Oral Surgery	74%	0%	6%	68%
Neurosurgery	95%	0%	6%	89%
Plastic surgery	87%	0%	6%	81%
A&E	44%	0%	6%	39%
Anaesthetics	83%	0%	6%	78%
Pain Management	83%	0%	6%	78%
General Medicine	91%	0%	6%	86%
Clinical Haematology	90%	0%	6%	84%
Infectious Diseases	93%	0%	6%	87%
Nephrology	94%	0%	6%	89%
Neurology	94%	0%	6%	88%
Rheumatology	92%	0%	6%	87%
Neonatology/SCBU	93%	0%	10%	83%
Obstetrics	71%	0%	10%	61%
Gynaecology	67%	0%	6%	61%
Neuropsychiatry	98%	0%	6%	92%
All specialties				**82.4%**

		81.5%
Overall occupancy rate		

4.3.3.2 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, NBSG has worked on moving to two four hour sessions per day per theatre and all-day sessions where appropriate for some specialties. It has not assumed weekend working, as an assessment of operating practice elsewhere has shown that there is no evidence to suggest that this could be staffed and operated on a sustainable and cost effective basis.

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 rates of 88% in elective theatre sessions (defined as the percentage of time in the session spent “needle to skin”). In addition it is assumed that theatres will run for 48 weeks for the year and all available session will be utilised. This equates to a requirement for 18 elective theatres and 5 emergency theatres.

Section 4.4.3 summarises the number of theatres required based upon:

- Projected FCEs for 2013/14
- The proportion of those FCEs proceeding to surgery
- Estimated theatre operations
- Average hours per operation
- Operating hours per year
- Percentage utilisation

4.3.3.3 Outpatient first to follow up rates

The BNSSG PCTs' planning assumption is to achieve a first to follow-up ratio for outpatients of 1:2. This has been built into the future capacity requirements with the exception of chronic diseases such as renal medicine, rheumatology, haematology, neurology, HIV and diabetes.

As a result of allowing for these chronic conditions, the planned overall first to follow up ratio is 1: 2.0, an improvement on the current ratio 1:2.2.

4.4 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:

4.4.1 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.

Future bed requirements based on those assumptions are shown in the table below :

Table 2 : Bed Requirements

ACUTE BEDS	
Current beds in 2005/6	1320
Growth	286
Impact of alternatives to admission	(189)
Assumed increase in specialist work	30
Reduction in length of stay	(224)
Increase in daycase rates	(101)
Decrease in occupancy rates	108
Total beds required in 2013/14	1230
Transfers to community hospitals	(112)
BHSP Service transfers	(54)
Transfer to ISTCs	(16)
Transfers from changed acute flows	(73)
Weston additional transfer	(28)
2013/14 acute beds required by NBT	*947*
SUMMARY OF BEDS IN 2013/14	
NBT acute	947
Community	112
Transferred to other Trusts	155
Transferred to ISTCs	16
TOTAL	**1230**

The breakdown of the 1230 beds by speciality is shown in Appendix 11.

Within the schedule of accommodation, the 947 NBSG acute beds are broken down as follows:

- General acute beds 666
- ITU/HDU beds 48
- Acute Assessment & Clinical Decision Unit 112
- Obstetrics, Gynaecology and NICU in retained accommodation 121

4.4.2 Daycase 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 4.3.2 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.

The number of daycase trolleys within the schedule of accommodation is 34. This has been calculated by assessing current patient throughput and improved models of care to maximise efficiency.

4.4.3 Theatre capacity

The calculation of theatre capacity needed as described above is shown in detail in Appendix 12. The new acute hospital will require 18 elective theatres and a further 5 emergency theatres. The latter theatres are based upon the Trust's current provision of emergency theatre coverage and anticipated growth, with weighting given for the Trust's specialist areas such as Neurosurgery and Plastic Surgery.

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 upon an ongoing operational service improvement programme and increased throughputs due to increased daycase procedures.

4.4.4 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 13. This calculation indicates a requirement for 16 outpatient clusters in the acute hospital, with a further 4 clusters in the community hospitals.

4.4.5 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 14.

SECTION 5: CASE FOR CHANGE

5.1 INTRODUCTION

The previous sections on strategic context and the new clinical model have looked at national policy and initiatives, Bristol-wide and local issues and have concluded that:

There is a need to develop a new system of healthcare, which both addresses 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 clinically appropriate;
- 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;
- Develop specialist services and clinical 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;
- Provide a vibrant learning and education culture that benefits clinical services;
- Improve the efficiency and value for money of services.
- Enable local services to respond to national initiatives including Patient Choice and 'Creating a Patient-Led NHS'

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 support care and recovery, thereby improving patient safety and ensuring privacy and dignity for patients.
- Provide a greatly improved working environment and facilities for staff.
- 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 objective.

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

At present many patients have to travel to either Frenchay or Southmead Hospitals in order to access services which need not be provided from an acute site. There is a strong case for providing these services in a community or primary care setting. This Business Case recognises the need to bring care closer to the patients in a way which is cost effective and maintains clinical standards, with the added benefit of convenience.

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 have problems which could easily be dealt with by a local minor injuries service (such as minor cuts and sprains). The area would benefit from a re-investment away from a centralised minor injuries service run out of an A&E department to a network of units across the community.
Outpatients/ Chronic Disease/Diagnostics	It is estimated that up to 50% of the outpatient attendances which currently take place at Frenchay or Southmead do not need to be in an acute/emergency hospital. There is a need to spread these services around the locality to meet the aim of providing local care where appropriate.
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.

Current community and primary care facilities are incapable of supporting the large-scale shifts of emphasis and activity and other changes proposed by 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 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 infrastructure of services.

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.

5.3 OBJECTIVE TWO: PROVIDE EFFECTIVE LOCAL HEALTH SERVICES

The present situation, described in the strategic context section, 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 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 currently located around the two acute sites. 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 away from scattered outpatient facilities into a combination of:

- Concentrated hi-tech diagnostic and assessment facilities;
- Out-posted 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 integrated core of acute services on a single site (Southmead), replacing the two existing hospitals at Frenchay and Southmead.

5.4 OBJECTIVE THREE: DEVELOP SPECIALIST SERVICES AND CLINICAL NETWORKS

The strategic context section discusses the requirement for, and the plans for the integration of specialist services across Bristol. This is necessary in order to ensure the provision of the best possible service, recognising the need to make the most effective use of specialist skills and equipment. The BHSP identified a range of initiatives including:

- The concentration and restructuring of certain specialties such as children's services, breast services, ENT and Oral Maxilla-Facial.
- The connection of specialist services using new technology.

These initiatives require significant development of facilities to deliver purpose built environments for this new configuration of services. Detailed planning is in hand for the transfer of both general and 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. The concentration of ENT clinical expertise within the North Bristol Trust will ensure the best possible service for patients, and the development of expert, high quality services for patients requiring complex interventions.

Without a major restructure of services, the strategic objective within the BHSP of the centralisation of key services such as those for Children 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 across Bristol requires investment in new configurations of hospital buildings, accompanied by investment in technological networks.

5.5 OBJECTIVE FOUR: PROVIDE A VIBRANT LEARNING AND EDUCATION 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 sites, and 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 PCTs' and NBT's front-line clinical environments, makes it difficult to meet the developing trend in health service education, to provide teaching at the 'patients' bedside'.
- An under-investment in state-of-the art clinical skills laboratories that would allow the Trust to develop modern teaching techniques, based around simulation.

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 training 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 level academic staff.

Conclusion

The achievement of the implementation of a modern academic strategy, designed to meet the needs of national and local imperatives requires investment in a complete overhaul of the current estate, providing educational space designed for purpose.

5.6 OBJECTIVE FIVE: IMPROVE THE EFFICIENCY AND VALUE FOR MONEY OF SERVICES

The aging acute estate has a number of problems as discussed earlier in the 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 is leading to severe problems in meeting waiting list targets. This inefficiency will increase further over time as physical deterioration and 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 2 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 area 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 patient care.

Conclusion

The achievement of the objective of improving efficiency and value for money in services requires a fundamental restructure of the healthcare estate in South Gloucestershire and North Bristol.

5.7 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. It would not be advantageous to either local people or local providers if there was a shortfall in the quality and capacity of local providers to become competitive. 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.

5.8 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 position 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, admissions wards and rapid diagnostics all clearly need to be close to one another and they are not. Patients at both hospitals often have to travel long distances between different facilities on those sites, 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 certain departments. Many buildings are scattered across the site and are not joined by 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,

Patient Dignity & 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 entrance corridors.
- The layout in the nightingale wards works against any attempts by staff to mitigate against the lack of privacy and dignity.
- Bed spaces are 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.

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, often involving across public access routes. 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. 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 Hospital has led to an increasing number of patients who require to be transferred between the two hospitals. This can be a distressing experience for patients, and introduces additional risk into the in-patient experience.

General Health Safety & Security Considerations

- Both sites have many buildings, which pose an asbestos hazard.
- Good security is very difficult to maintain on what are large fragmented sites.
- Due to insufficient localised storage space in many areas, many corridors are cluttered with vital equipment posing a risk.
- Some of the ward areas, particularly at Frenchay 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.

5.9 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 a major investment, in order to provide an acceptable standard of facilities for staff.

5.10 OBJECTIVE NINE: CONTRIBUTE TO THE WIDER OBJECTIVE OF NEIGHBOURHOOD RENEWAL AND REGENERATION

The strategic context section looks at the objectives for 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 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.

5.11 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, Bristol North PCT and South Gloucestershire PCT strongly believe that there is a requirement to provide a practical response to the case for change, and this Outline Business Case aims to put forward proposals that are practical and achievable. 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

PART C: OPTION APPRAISAL

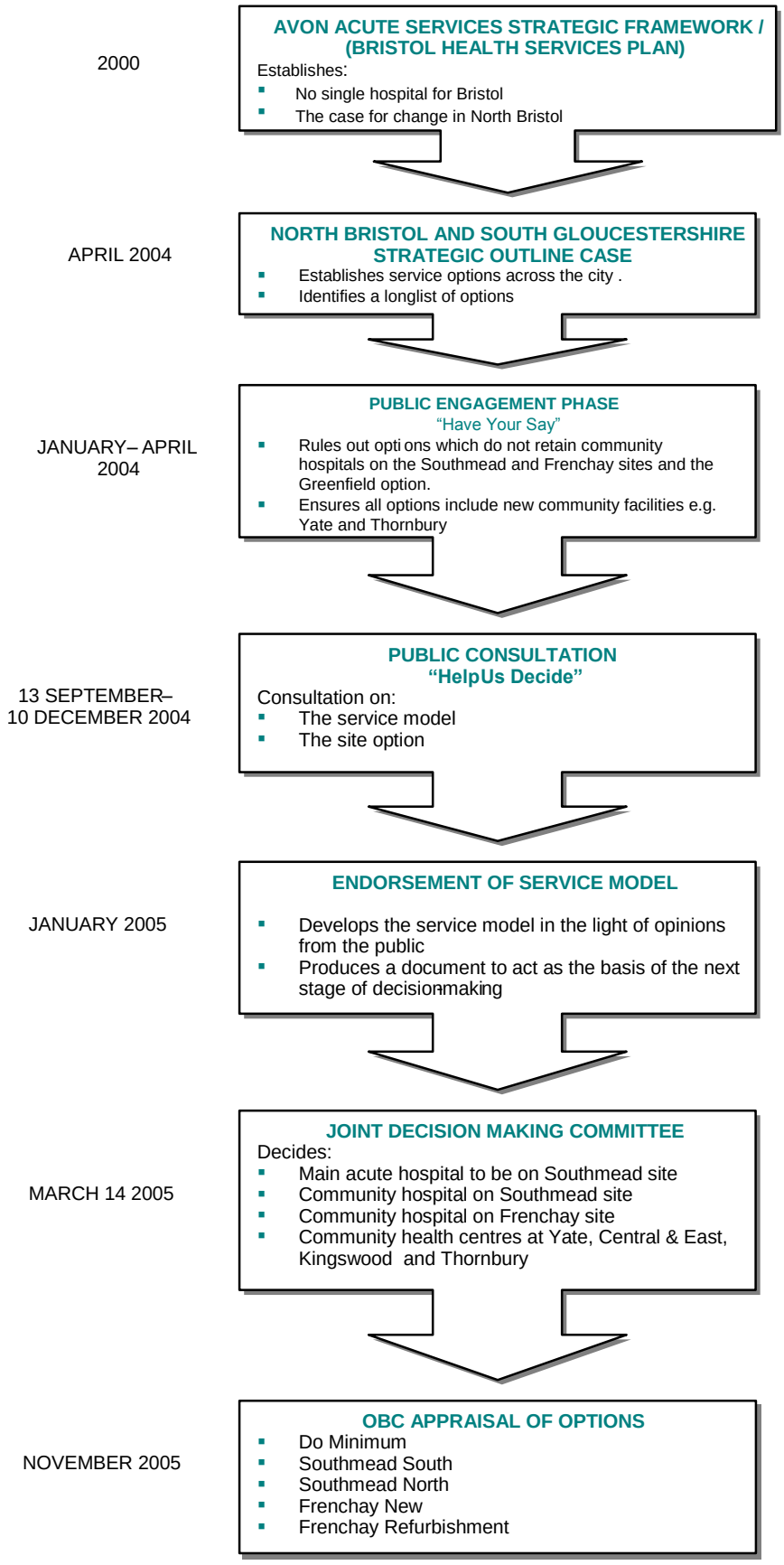
SECTION 6: OVERVIEW OF OPTION APPRAISAL PROCESS

6.1 INTRODUCTION

The previous sections of the document have highlighted the need for change to existing health services in the light of national and local demands on services. The reasons why the local health services believe they need to adapt to meet these changes were summarised in the Case for Change Section.

This section looks at the process that the Trusts have undertaken, as part of the Bristol Health Service Plan (BHSP), to explore the potential solutions to the current problems and to present a preferred option for delivering the solution. This process began with the early BHSP work and developed through a series of consultation stages to a preferred option for the development of the Frenchay and Southmead sites.

The process is summarised in the following diagram:


2000
AVON ACUTE SERVICES STRATEGIC FRAMEWORK / (BRISTOL HEALTH SERVICES PLAN)
Establishes:
No single hospital for Bristol
The case for change in North Bristol
APRIL 2004
NORTH BRISTOL AND SOUTH GLOUCESTERSHIRE STRATEGIC OUTLINE CASE
Establishes service options across the city .
Identifies a longlist of options
JANUARY– APRIL 2004
PUBLIC ENGAGEMENT PHASE
"Have Your Say"
Rules out options which do not retain community hospitals on the Southmead and Frenchay sites and the Greenfield option.
Ensures all options include new community facilities e.g. Yate and Thornbury
13 SEPTEMBER– 10 DECEMBER 2004
PUBLIC CONSULTATION
"HelpUs Decide"
Consultation on:
The service model
The site option
JANUARY 2005
ENDORSEMENT OF SERVICE MODEL
Develops the service model in the light of opinions from the public
Produces a document to act as the basis of the next stage of decision-making
MARCH 14 2005
JOINT DECISION MAKING COMMITTEE
Decides:
Main acute hospital to be on Southmead site
Community hospital on Southmead site
Community hospital on Frenchay site
Community health centres at Yate, Central & East, Kingswood and Thornbury
NOVEMBER 2005
OBC APPRAISAL OF OPTIONS
Do Minimum
Southmead South
Southmead North
Frenchay New
Frenchay Refurbishment

6.2 AVON ACUTE SERVICES STRATEGIC FRAMEWORK

The first major milestone in the process of developing a new configuration of Health services in North Bristol and South Gloucestershire was the creation of the Avon Acute Services Strategic Framework. This was launched by the local health services to focus on the configuration of services across Bristol as a whole, endeavouring to establish a pattern of service which is accessible to the population, whilst at the same time supporting the provision of high quality acute and tertiary services.

In 2000 the Avon Acute Service Strategic Framework established:-

i) The provision of acute and specialist services by one acute hospital in Bristol would not be feasible and would not be acceptable to members of the public. The health community would continue to need at least 2 acute hospital sites to serve Bristol, South Gloucestershire and North Somerset.

ii) There was a need to shift services from the acute sites to the community, thereby improving access to services for patients and ensuring the acute sites are used appropriately, by those patients requiring centralised acute and specialist services.

iii) There was a clear case for change in North Bristol. The current estate was grossly inadequate and there were operational and clinical disadvantages to providing an acute service over two sites.

iv) There was a strong need for investment in UBHT, particularly in order to improve the inpatient services currently provided in old, inadequate accommodation.

6.3 NORTH BRISTOL AND SOUTH GLOUCESTERSHIRE STRATEGIC OUTLINE CASE

The local health services established the Bristol Health Services Plan (BHSP) to co-ordinate the development of the recommendations of the Avon Acute Services Strategic Framework. The work of the BHSP led to a number of proposals including the North Bristol and South Gloucestershire Strategic Outline Case (SOC). This SOC set out proposals (as part of the Bristol-wide plan) to improve and modernise health care in the North of the city and surrounding areas.

The objectives set out in the SOC were to provide high quality hospital and community facilities that:

- Significantly improve the care environment for patients and staff;
- Are suited to modern clinical practice;
- Improve the efficiency of services.

The SOC examined 3 main issues:

i) The number of acute / emergency hospital within Bristol as a whole.

ii) The number of new community hospitals in North Bristol and South Gloucestershire.

iii) Where a single hospital serving North Bristol and South Gloucestershire would be located.

The SOC generated a long-list of options to meet the objectives and address the main issues. This long-list was then evaluated against a set of health needs criteria:

- Strategic fit
- Policy imperatives
- Better access to services
- Improved quality of clinical services
- Development of existing services and provision of new services
- Training, teaching and research
- Improved environmental quality
- Effective use of resources
- Risk and sustainability

As a result of this appraisal, 6 options (Options A, B, C, D, E, F) were short-listed for development in the SOC.

The following table sets out the longlist of options and the shortlisting decisions taken at SOC stage:

Table: 6.3

Number of Major Hospital		Location of Acute Hospital for North Bristol and South Gloucestershire	SOC Shortlisting Decision
Two major acute emergency hospitals in Bristol, one at the Bristol Royal Infirmary precinct and one in North Bristol/South Gloucestershire	A	Main acute plus community hospital on Southmead site, second community hospital on Frenchay site; community facilities in Thornbury and Yate	Yes
	B	Main acute hospital plus community hospital on Frenchay site; second community hospital on Southmead site; community facilities in Thornbury and Yate.	Yes
	C	Main acute hospital plus community hospital on Southmead site; no second community hospital site; community facilities in Thornbury and Yate.	Yes
	D	Main acute hospital plus community hospital on Frenchay site; no second community hospital; community facilities in Thornbury and Yate	Yes
	E	Main acute hospital plus community hospital on Greenfield site; no second community hospital; community facilities in Thornbury and Yate.	Yes
3 major acute / emergency hospitals in Bristol	F	Retain both Frenchay and Southmead as acute/emergency hospitals. Upgrade existing facilities to Estates Condition B. No new community facilities (The "Do Minimum").	Yes
	G	"Do nothing"	No – will not allow the provision of safe, good quality healthcare, or meet statutory requirements.
	H	Retain both Frenchay and Southmead as acute / emergency hospitals. Upgrade existing facilities to Estates Condition B and to address clinical configuration issues. New community facilities on both sites, and at Thornbury and Yate	No. Option too similar to F to be included. Clinical reconfiguration possibilities very limited.
1 major acute / emergency hospital in Bristol	I	Only have one major acute/emergency hospital in Bristol – there would be several variants of this based on location and different configurations of community facilities around it.	No – not acceptable to the public or deliverable.

6.4 PUBLIC ENGAGEMENT PHASE

In parallel with the development of the SOC, the health community participated in a major public engagement process on the Bristol Health Services Plan. This provided an opportunity to gather views on the future shape of services across Bristol.

During the engagement phase a number of key issues emerged which were used to further reduce the 6 SOC options. The key issues were:

- The importance of access for emergency services, outpatients and visiting.
- The need to provide services in local settings whenever this is possible.
- The need to be seen to make best use of public money.
- The need to provide enough capacity.
- The need for clinical quality
- Concern about the phasing of developments, and the need for community provision to be in place, before the acute provision is reduced.

6.4.1 Impact on Options

The public engagement process clearly signalled a strong desire to have services provided as locally as possible, providing quality could be maintained, and also emphasised the importance of access issues.

It was therefore recommended that the options which provided only one community hospital on the main acute site (Options C, D and E), should be excluded from the SOC shortlist. This recommendation was accepted by the North Bristol Trust Board, at its meeting held on 30 July 2004.

Irrespective of the limited community hospital provision, there were other reasons to exclude the green-field site option (Option E). Detailed site searches had found only one possible site within the North Bristol catchment area; at Harry Stoke. There were, however, considerable problems in taking forward a development at Harry Stoke in terms of existing multiple land ownership and the ability to obtain planning permission. The proximity of the site to the M32 and the very crowded A4174 meant that planning permission would be high risk.

The following table sets out the impact of public engagement on the six options considered in the SOC:

Table: 6.4.1

Number of major hospitals		Location of North Bristol / South Gloucestershire acute hospital and new community site	Take forward to contribution
Two major acute emergency hospitals in Bristol, one at the Bristol Royal Infirmary precinct and one in North Bristol and South Gloucestershire	A	Main acute plus community hospital on Southmead site, second community hospital on Frenchay site; community facilities in Thornbury and Yate	Yes
	B	Main acute hospital plus community hospital on Frenchay site; second community hospital on Southmead site; community facilities in Thornbury and Yate.	Yes
	C	Main acute hospital plus community hospital on Southmead site; no second community hospital site; community facilities in Thornbury and Yate.	No
	D	Main acute hospital plus community hospital on Frenchay site; no second community hospital; community facilities in Thornbury and Yate	No
	E	Main acute hospital plus community hospital on Greenfield site; no second community hospital; community facilities in Thornbury and Yate.	No
3 major acute / emergency hospitals in Bristol	F	Retain both Frenchay and Southmead as acute/emergency hospitals. Upgrade existing facilities to Estates Condition B. No new community facilities (The “Do Minimum”).	Yes

Options A, B and F were retained for further detailed appraisal and in particular for appraisal during the public consultation process.

6.5 NORTH BRISTOL AND SOUTH GLOUCESTERSHIRE PUBLIC CONSULTATION

The public consultation was a BHSP exercise covering community developments, centralisation of specialist services, investment in UBHT, and investment in a new single site hospital serving North Bristol and South Gloucestershire on either the Southmead or Frenchay site.

In terms of North Bristol and South Gloucestershire, 2 decisions were required from the consultation exercise:

- **Service decision** – support was required for the proposed service model, and in particular for the development of a single site acute hospital for North Bristol and South Gloucestershire.
- **Site decision** – feedback was required on the preferred site for the new acute hospital – Southmead or Frenchay.

As stated options A, B and F were taken forward into the public consultation process where they were referred to as Option 2, 3 and 1 respectively:

Option One (Option F): The "Status Quo" or "do minimum" option, acute hospitals on both sites, but no community hospitals.
Option Two (Option A): Acute hospital at Southmead, with community hospitals at both Frenchay and Southmead.
Option Three (Option B): Acute hospital at Frenchay with community hospitals at both Frenchay and Southmead.

The report of the BHSP Consultation confirmed that the majority of people supported the guiding principles and overall vision for the service reconfiguration:

- Welcoming the capital investment proposed.
- Supporting the concentration of acute and specialist services in fewer hospitals.
- Supporting the creation of a network of community hospitals and healthcare facilities.
- Supporting the general principle of localising health services.
- Supporting the development of one modern acute hospital services North Bristol and South Gloucestershire.

In terms of the feedback on the preferred site – Frenchay or Southmead, this was less conclusive, with no clear consensus arising from the consultation. There was support for one acute hospital on the grounds of efficiency and better clinical outcomes, but there was also some support for maintaining acute services at both Frenchay and Southmead.

In general according to the responses collated by the Care Forum, residents of South Gloucestershire favoured developing services on the Frenchay site, and those of Bristol and North Somerset were more likely to favour Southmead.

Test research found that Frenchay hospital was the preferred choice, but with particular emphasis amongst South Gloucestershire residents. Almost half (46%) preferred the Frenchay site whilst 29% opted for the Southmead site. One quarter were not able to state a preference. Test research found that access and proximity to home are by far the most important considerations in stating a preference for a particular site.

6.6 JOINT DECISION MAKING COMMITTEE

In order to ensure clear decisions, consistent with the overall guiding principles and visions were arrived at, a formal decision making process was established, a part of which was the Joint Decision Making Committee. The role of this committee was to make the final decisions on the proposals for development. The membership of this committee consisted of the Chairs of Bristol North PCT, Bristol South and West PCT, North Bristol Trust, North Somerset PCT, South Gloucestershire PCT and United Bristol Healthcare NHS Trust. Each Trust Board considered the proposals which had a direct effect on it, prior to the meeting of the Joint Decision Making Committee, and therefore each Chair was mandated by their Board to inform the Joint Committee of their Board's recommendations. The Committee had the following documents to inform their debate:

- An independent report on the consultation and public feedback.
- A formal assessment report on the proposals.
- A detailed response from the Joint Oversight and Scrutiny Committee set up by Bristol City Council, South Gloucestershire Council and North Somerset Council.
- Individual Board discussions on the proposals, from each of the local NHS organisations.

The Joint Decision Making Committee required an Assessment Report setting out recommendations. The Assessment report applied the following criteria to inform the recommendations on the proposals:

i) What will the proposals mean for the quality of care that patients receive?
ii) What will the proposals mean for the development of community services?
iii) Will the proposals help in recruiting the doctors and other specialist staff we need to run services?
iv) Will the proposals help in recruiting nurses, and other clinical staff and support staff (such as porters)?
v) What will the proposals mean for people's travel times?
vi) How will the proposals impact on local communities (particularly taking account of localities with greater levels of deprivation and higher health needs)?
vii) Will the proposals provide high quality modern buildings, which provide the best environment for patients to recover from their illness?
viii) How quickly and easily can we implement the proposals?
ix) How flexible are the options, so that if things change in the future we can still meet patients' needs?
x) How will the proposals be good value for money?

The key issues to this OBC considered by the Joint Decision Making Committee are given below. The table identifies the key issues, gives a brief indication of the consultation feedback and states the decision taken by the Joint Decision Making Committee on 14 March 2005.

Table: 6.6

Issues for this OBC	Feedback from Consultation	Decision on 14/03/05
Whether the overall model of care set out in the BHSP was supported.	Broad support for the overall vision, but particular concern that the services in the community develop in advance of any rationalisation of acute facilities.	That the health community would move forward with the overall model of care, and would focus strongly on the development of community services (of particular importance to the development of the community hospitals proposed in this OBC)
Whether there should be community hospitals based at Frenchay and Southmead	There was limited feedback within the review, although throughout the engagement process there has been an emphasis on the importance of retaining inpatient services at both Frenchay and Southmead.	That this OBC should include community hospitals at both the Southmead and Frenchay sites.
Whether inpatient children's services should be centralised at the Bristol Royal Children's Hospital.	There was general support for this in the consultation.	This was agreed, and as a result this OBC does not allow for inpatient children's services at either Frenchay or Southmead.
Whether both Southmead and Frenchay should remain as major acute/ emergency hospitals.	Public feedback was mixed, with some people saying that they should both be major acute hospitals, and others accepting there would be clinical improvements if there was a single acute / emergency facility in North Bristol/South Gloucestershire.	It was agreed that there should be a single site for acute / emergency care in North Bristol / South Gloucestershire.
Whether a single acute / site should be based at Southmead or Frenchay.	There was support for both sites, but the majority of the feedback from members of the public favoured Frenchay.	Southmead was chosen to be the major site as it performed better on both the benefits and the financial appraisals.

6.7 DEVELOPING THE BRIEF

The Local Health Economy has been committed to the involvement of all of the key stakeholders in the development of both the models of care delivery and the identification of the preferred capital solution.

In addition to the formal project structure including the Project Board and the Project Team established with representation from both the Acute and Primary Care Trusts, following a major model of care workshop held 28th January 2005, a number of Clinical and Support Groups were established, involving medical, nursing, AHP, scientist and management representatives again from both the Acute and Primary Care Trusts.

All of the Clinical Working Groups met at least weekly to identify and resolve the issues arising from their preferred model of service delivery and develop the relevant functional content and related schedules of accommodation.

In developing the models of care the focus has been on the achievement of the highest standards and delivery of best practice. Reference has been made to external expertise including Royal Colleges, the Modernisation Agency and patient support groups.

The result of this process was the development of the model of care identified in section 3

As the various Working Groups undertook their deliberations, there were ongoing discussions between the Acute and Primary Care Trusts with regular briefings to the PCT Executive, and consultations workshops involving GPs. The Trust has also been keen to involve the Strategic Health Authority at each stage of the process in order to ensure that the proposals were consistent with the strategic vision of Bristol Health Services Plan.

Having established the clinical models and functional content of the key service area, the completion of the option appraisal process was widened to ensure that stakeholders across the whole health economy were able to participate.

The Project Board has also recognised that the improvements proposed for the redevelopment of both the Frenchay and Southmead sites offer a unique opportunity to provide a landmark development for North Bristol and South Gloucestershire. In addition to developing the clinical brief a detailed process has taken place to develop a design brief for the project, again involving both acute and PCT. This process has benefited significantly from the input given by colleagues at NHS Estates and the project has been through a productive Design Review Panel Stage 0. The recommendations of this design review panel were taken into account in developing the short list of options.

Regular discussions have also taken place with colleagues within the local council in order to understand their concerns and priorities relating to this proposal.

In order to widen the consultation process as part of the wider communication strategy within the project a website has been designed which will provide details of the models of care, the detailed discussions which have taken place within the working groups, and the development of the proposed solutions. This site will be available via the Trust's intranet and will therefore enable all staff to participate in and contribute to the ongoing planning process.

6.8 CONSTRAINTS AND OPPORTUNITIES

6.8.1 Approach

Prior to developing the physical options for the short listing process, the Project Board instructed the Estates Team and External Advisors to review the status of the two sites and update the Estates Database as appropriate in order that all the options to be evaluated were robust and based upon sound data (refer section 2.7).

6.8.2 List of Issues and Constraints

The following issues were included in the agreed brief given to the Estates Team for scoping potential physical options:

- The results of the site appraisal described in section 6.7 i.e. a single acute hospital on the Southmead site supporting community hospitals on both the Southmead and Frenchay Sites;
- The model of care developed from the 28 January 2005 'Event' into the final version included in Section B. This is a single model against which all the short listed options were benchmarked;

- The scope of services as described in the Strategic Context section;
- The Quantum of Accommodation to be provided as derived from the work of the Trust and PCTs' team as described in the previous section and consolidated within a “Neutral Functional Content schedule of Accommodation;

In addition the team where asked to take due cognisance of the following;

- The BHSP directive to make best use of existing assets and to only build new where necessary;
- The BHSP directive to ensure that the new build element of the scheme concentrates on the acute core of the hospital and the community hospital functions, with the treatment centre services being accommodated where possible in retained or refurbished accommodation;
- The BHSP directive to explore the potential for phasing where it could be demonstrated to deliver Value fro Money;
- Development plans under other Business Cases and initiatives (as described in the strategic context section on BHSP):

  - Schemes to help deliver the Trust’s Financial Recovery Plan
  - The centralisation of pathology services
  - Mental Health developments on site by AWP
  - Interim BHSP schemes including cardiology and ENT

- The requirement to continue the provision of existing hospital services through the development process

SECTION 7: SHORTLISTING THE OPTIONS

7.1 INTRODUCTION

7.1.1 Refining the short-list

The outcome of the described strategic planning activity and public engagement and consultation was to narrow down development options around an agreed model of care with the main acute site to be on the Southmead site and a community facility on both the Frenchay and Southmead sites. In effect this process moved the Trust from a long-list of options to a potential short-list. The options available for a short-list were necessarily constrained by the items mentioned in the previous section and in particular:

- The outcomes of the consultation

  i) The development of the single acute and specialist hospital serving North Bristol and South Gloucestershire would be on the Southmead site.
  ii) A community hospital serving North West Bristol would be developed on the Southmead site.
  iii) A community hospital serving South Gloucestershire and a portion of the North Bristol population would be developed on the Frenchay Hospital site.
  iv) Community health facilities would be developed in Central and East Bristol, Yate, Thornbury and Kingswood (subject to separate Business Cases).

- The constraints laid down by BHSP including the requirement to make best use of existing assets;
- The Trusts requirements to maintain existing hospital services during construction

7.1.2 Identification of the shortlist of options for consideration in the Outline Business Case

In arriving at a short-list a number of potential options were considered as summarised in the following table:

Table: 7.1.2

	Potential Option	Fully Developed in the OBC
A	Do Minimum	Yes
B	Southmead New Build, South	Yes
C	Southmead New Build, North	Yes
D	Southmead New Building, Centre	No
E	Southmead 'bolt-on'	No
F	Frenchay New Build	Yes
G	Frenchay Refurbish	Yes

The two options which were dismissed prior to detailed benefits appraisal process in the OBC were:

i) Southmead New Build – centre of site
ii) Southmead 'Bolt-on'

Southmead New Build – centre of site: An option was developed to provide a new build hospital in the middle of the Southmead site. Whilst this option would present a number of advantages including the ability to deliver a 100% purpose-built environment, this option was rejected because it would fail to meet a number of constraints including:

- Failure to retain existing buildings of good quality. In particular both Elgar House and the Avon Orthopaedic Centre are seen as buildings in relatively good condition, securing a B status in most of the 6facet survey results. The Trusts concluded that these buildings would need to be retained in any option that was short-listed in order to comply with the BHSP framework.
- The location in the centre of the Southmead site would make the maintenance of existing clinical services very difficult during construction, and would incur a very significant amount of enabling works. This option would necessitate a number of phases and would inevitably provide considerable disruption to the running of hospital services.

It was very clear that it would not be a preferred option.

Southmead 'Bolt-On': This option involved the 'bolting-on' at Southmead, of the existing services at Frenchay, in order to bring the acute clinical services onto one site.

Due to existing site constraints this option would not achieve the core requirement of delivering the new clinical model and the integration of acute services. A 'bolt-on' solution would lead to inappropriate clinical adjacencies, a sub-optimum site solution and continued inefficiencies. In addition to this, it would require a considerable amount of new build in order to fully re-provide the Frenchay services, which would include theatres, in-patient and diagnostic areas.

In addition, due to the spread-out nature of the Southmead site, there is no single way of aggregating a set of related specialties. The fact that the development sites are the fringes of the site would mean an inevitable scattering of departments across the 27 hectare campus.

This option would not enable the majority of services to be provided in modern facilities meeting current consumerism standards as much of the existing Southmead estate could not be economically upgraded to modern standards. The environment would therefore become increasingly unacceptable to both patients and staff, and would not facilitate the provision of high quality health care.

Again it was very clear it would not be a preferred option.

Having ruled out these potential options the Trusts developed a short-list of options that would meet the constraints, with a do-minimum option included to provide a benchmark.

The five short-listed options were:

(a) Do Minimum
(b) Southmead New Build South
(c) Southmead New Build North
(d) Frenchay New Build
(e) Frenchay Refurbished

7.1.3 Description of the Shortlist of Options

7.1.3.1 Option A – The Do Minimum Option

The 'Do Minimum' Option aims to provide the minimum estates solution that will allow the Trusts to deliver healthcare from the existing Southmead and Frenchay site in a safe and lawful manner in the short to medium term.

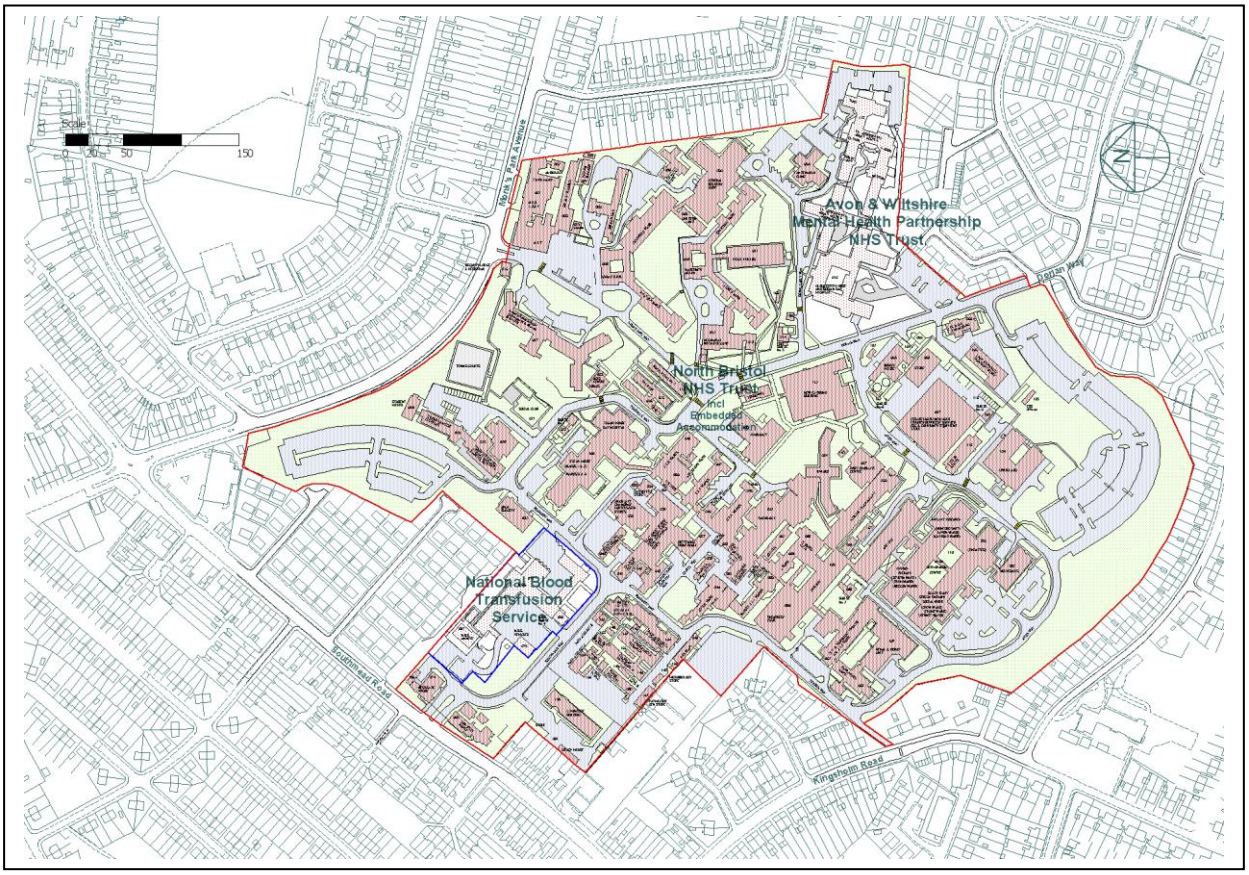
This option does not address any of the capacity issues in terms of either models of care or the Local Delivery Plan. This option also fails to meet the objectives to provide a suitable environment for patients and staff as laid out in the National Estate Standards and in the local objectives outlined in the Strategic Context.

A summary of this option is as follows:

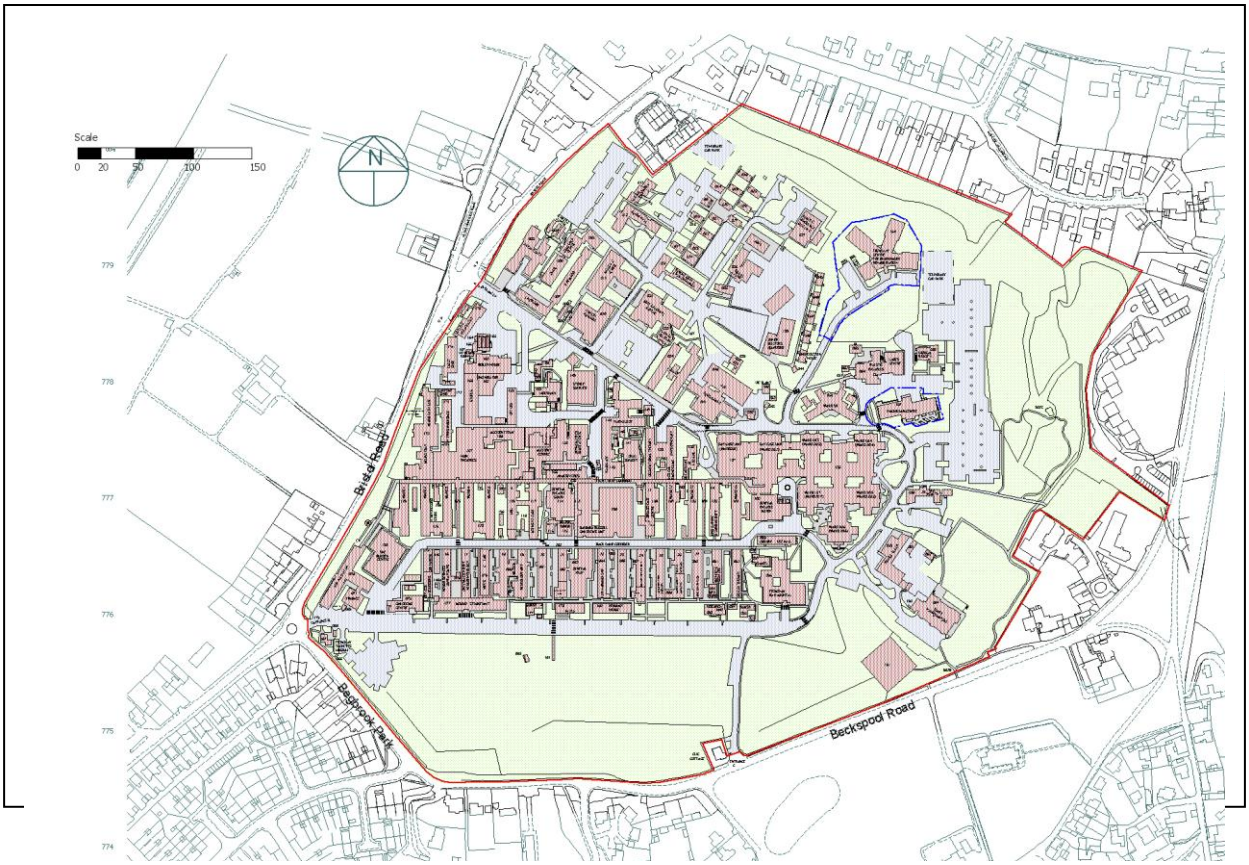
- No reconfiguration of services;
- No Community hospital at Southmead;
- No Community hospital at Frenchay;
- Estate at Southmead and Frenchay hospitals upgraded to Condition B;
- Capital expenditure limited to backlog maintenance.

Maps of the current sites are shown overleaf:

SOUTHMEAD EXISTING



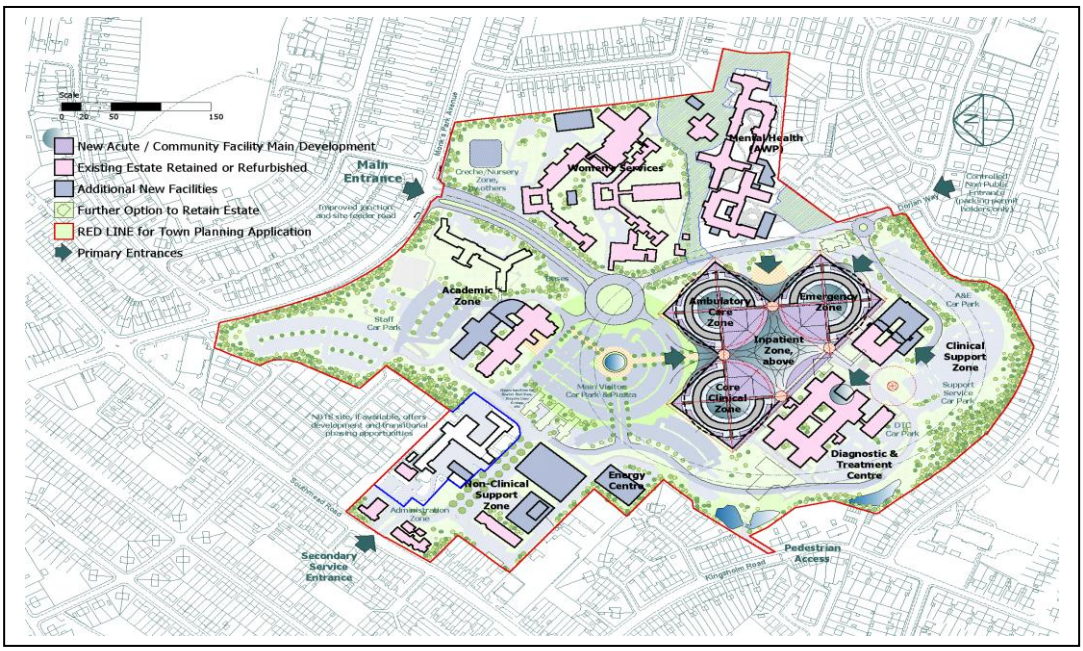
FRENCHAY EXISTING



Option B provides for the development of the new acute hospital and integrated community facilities in the south of the Southmead site, focussing on the Avon Orthopaedic Centre. Key features of this option are:

- Maximise use of category A/B estate, particularly Elgar House and Avon Orthopaedic Centre.
- The design would incorporate emergency, inpatient, ambulatory, core clinical and support zones, together with a treatment centre.
- The design includes a podium with 3 inpatient towers above, based on the clinical model of care.
- The podium would provide the emergency, core clinical and ambulatory zones.
- This solution would allow the new acute and community facilities to interact directly with the existing pathology laboratories and allow for their potential expansion which is currently one option being developed as part of a separate business case (see Strategic Context section on BHSP).
- Community facilities would be integral to the relevant zone, but with a clear community identity.
- The Avon Orthopaedic Centre is identified as a treatment centre with the potential to extend theatres, retain the bed base and retain academic and research facilities.
- Elgar House is retained as a focus for education, workforce development and research, and could be extended.
- Obstetric and gynaecology services are retained in their present location in existing estate and as such does not require a decision about the future of this service in advance of the Pan-Bristol review.
- Mental health services provided by Avon and Wiltshire Partnership Trust are retained in their present location in existing estate.
- The design provides for a long entrance approach to the hospital, which will aid orientation for patients, visitors and staff.
- The main footprint for the new build currently accommodates a range of single and two storey buildings all of which could be readily relocated without significantly effect the Hospital's ability to deliver service during the construction period.
- This option relies upon a substantial enabling package followed by a single main construction phase, followed by a site demolition, clearance and landscaping phase. A transition plan has been developed for this option, which is included as Appendix 15.

A description of the Southmead South option is shown in the following diagram:



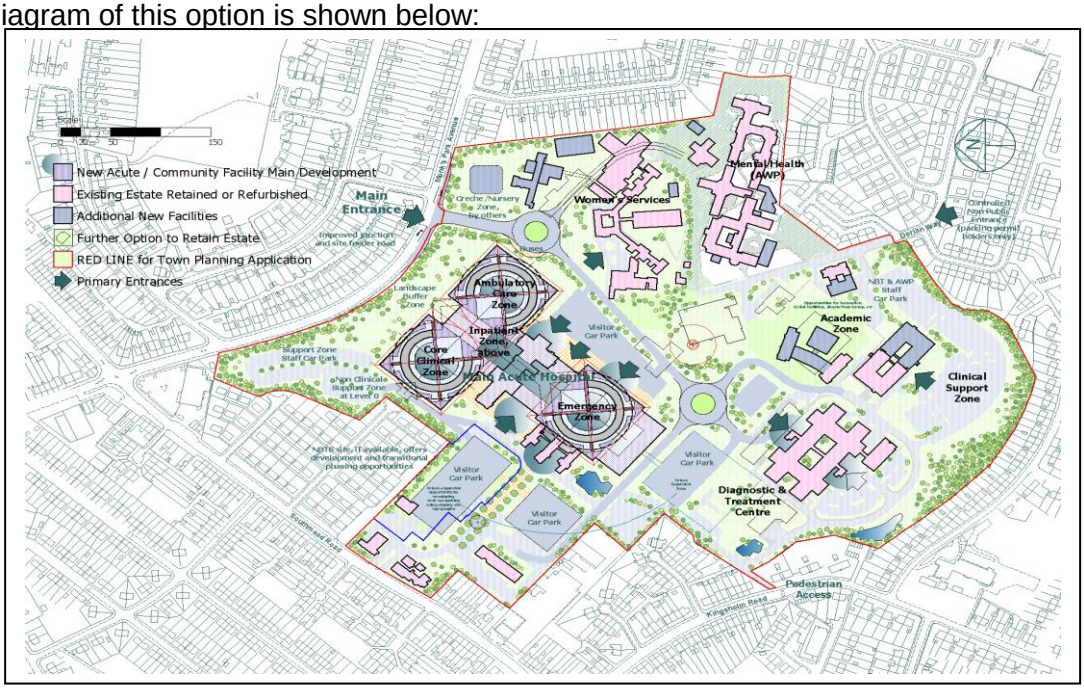
7.1.3.3 *Option C – Southmead New Build North*

Option C provides for the development of the new acute hospital and integrated community facilities in the north of the Southmead site, focusing on Elgar House. Key factors of this option are:

- Maximise use of good quality, category A/B, existing estate, particularly Elgar House and Avon Orthopaedic Centre.
- The design would incorporate emergency, inpatient, ambulatory, core clinical and support zones, together with a treatment centre.
- The design includes a podium with inpatient towers above, based on the clinical model of care.
- The podium would provide the emergency, core clinical and ambulatory zones.
- Community facilities would be integral to the relevant zone, but with a clear community hospital.
- The Avon Orthopaedic Centre is identified as a treatment centre with the potential to extend theatres, retain the bed base and retain academic and research facilities.
- This solution would allow the new acute and community facilities to interact directly with the existing pathology laboratories and allow for their expansion which is currently being developed as part of a separate business case.
- Obstetric and gynaecology services are retained in their present location in existing estate and as such does not require a decision on the future of this service in advance of the Pan-Bristol review.
- Mental health services provided to Avon and Wiltshire Partnership Trust are retained in their present location in existing estate.
- The lifeline building would be retained and extended for academic and research facilities.
- The development would be close to the Monks Park entrance.
- The footprint for the new build straddles the existing Elgar House (with sub options to retain or replace this facility) to the North the site is potentially clear of clinical activity (Tennis courts and Residences which are scheduled to move off site as a separate Business Case). The area to the South of Elgar House is currently occupied by a range of clinical facilities whose replacement is best suited to a phased development plan.
- This option relies upon a substantial enabling package followed by the construction phases, followed by a site demolition, clearance and landscaping phase. A transition plan has been developed for this option, which is included as Appendix 15.

A diagram of this option is shown below:

7.1.3.4



Option D provides for the development of a new community hospital on the Frenchay site. Key features of this option are:

- Single storey provision for ambulatory services – outpatients, diagnostics, rehabilitation.
- Two storey provision New Build community hospital in the North of the Frenchay site.
- Good access from the main entrance on the Bristol Road
- Creates a 'health campus' to the North of the site, with reasonable adjacencies to the Brain Injury Rehabilitation Unit and the Macmillan Centre.
- Creates clear sweep of land for disposal
- The design incorporates a clear indication of potential for expansion.
- The relationship with the Brain Injury Rehabilitation Unit and the Macmillan Centre is good.
- The footprint for a new build solution on the Frenchay site is immediately behind the academic and training facilities and comprises of a series of 'huts' and single storey facilities interspersed with secondary care parking facilities. As such the footprint for the building phase can readily be made available. The car parking would then follow after the rationalisation of the academic and training facilities on the Southmead site.

A diagram of this option is shown below:

7.1.3.5 Option E – Frenchay Refurbish

Option E provides for the refurbishment of Phase One, Frenchay, for the provision of the Frenchay Community Hospital. Key features of this option are:

- Maximises the use of the existing good quality, category A/B buildings at Frenchay.
- Retains Phase One
- Retains the restaurant and receipt and distribution centre.
- Good clinical adjacency with the Macmillan Centre
- Creates a 'health campus' in the centre of land available for non-health related development.
- The relationship with the Brain Injury Rehabilitation Unit is maintained.
- The footprint for this option centres around the retention of the Phase 1 building with a notional extension. These clinical facilities can be developed in a single phase once the existing facilities (Inpatient and Daycase) have been rationalised as part of the overall Business Case.

A diagram of this option is shown below:

SECTION 8: BENEFITS APPRAISAL OF THE SHORTLISTED OPTION

8.1 THE APPRAISAL PROCESS

Following the shortlisting of the five options, a clear process was established, by which the preferred option would be identified. This process had the following components:

- Clear weighted benefit criteria
- Comprehensive stakeholder involvement
- Weighted benefit scores for each option

8.2 WEIGHTED BENEFITS CRITERIA

The non-financial benefits for each option were identified by assessing the options against a set of non-financial criteria, and then calculating a "weighted benefit score" for each option. This enabled the non-financial benefits of each option to be quantified and compared. The weighted non-financial benefits applied during this process were:

Benefits Criteria	Weighting
Enables the delivery of the clinical and service models:	**40**
Quality and safety of care for patients Promotes clinical excellence Allows efficient and effective delivery of support services Enables high quality research and education Allows delivery of national and local strategic aims & targets	
Flexible and future proof	**20**
Adaptable to future changes Logical extension space e.g. for women's services Able to be used for a variety of purposes Demonstrates effective use of assets across the health community	
Provides an excellent environment for patients and staff:	**20**
Feel good factor Provides good internal design Provides good external design Safe and easy access for staff and patients (including roads and car parks) Encourages staff recruitment and retention Meets NHS building standards, especially space Supports protection of the environment	
Civic presence	**10**
Noticeable public building Should complement the neighbourhood Supports regeneration	
Practicality	**10**
Ability to keep existing services running during construction period Ability to procure services sensibly and cost effectively Has public and staff support Likely to gain planning approval	

8.3. INVOLVEMENT OF STAKEHOLDERS

There was a strong commitment during the optional appraisal process to the involvement of the public, staff and clinicians. To this end a clear timetable was established which included:

- Two open days for staff of the North Bristol Trust, Bristol North PCT and South Gloucestershire PCT, together with members of the public. These open days were held at Southmead and Frenchay and were followed up by information packs as requested.
- Two meetings of the Outline Business Case Public Involvement Group.
- A meeting of the North Bristol and South Gloucestershire Cluster Board.
- A meeting of the North Bristol Trust Joint Union Committee.
- A meeting of NBT Clinical Directors, Heads of Nursing and Leads of Allied Health Professions.
- A meeting of the NBT Trust Management Team.

Within the programme of meetings, there were three events during which the options were scored against the benefits criteria: the Cluster Board (consensus score), the Public Involvement Group (individual scores, averaged) and the meeting of clinical leads at NBT (consensus score). It was further agreed by the Cluster Board that the scores from the groups would be weighted as follows in determining the final score:

Public Involvement Group	25%
Cluster Board	50%
NBT Clinical Leads	25%

The Cluster Board was given 50% of the 'vote', as it is representative of a wide range of stakeholders, and particularly as it included representatives from Bristol North PCT, South Gloucestershire PCT and North Bristol Trust.

8.4 RESULTS OF THE NON-FINANCIAL OPTION APPRAISAL

8.4.1 Weighted Benefit Scores

Each option was appraised against the weighted benefit criteria by each stakeholder group and a score for each option calculated. These scores were then weighted according to the percentage of the 'vote', in order to identify a final weighted score for each option.

Table 8.4.1 sets out the scores of the stakeholder groups and the aggregated weighted scores, details are also provided of the perceived advantages and disadvantages of the options. The preferred options based on the non-financial criteria are Southmead South and Frenchay New Build.

Table 8.4.1: Weighted Benefits Scores

No.	Criterion Description	Weighting	PIG 25% of vote Weighted Average	Cluster Board 50% of vote Weighted score	Clinical staff 25% of vote Weighted score	Total average score Weighted score
Do Minimum						
1	Enables the delivery of the clinical and service models	*40*	193	40	90	91
2	Flexible and future proof	*20*	83	60	46	62
3	Provides an excellent environment for patients and staff	*20*	76	40	42	50
4	Civic presence	*10*	38	20	18	24
5	Practicality	*10*	45	50	31	44
			435	**210**	**227**	**271**
Frenchay Refurbishment						
1	Enables the delivery of the clinical and service models	*40*	233	240	200	228
2	Flexible and future proof	*20*	126	160	80	132
3	Provides an excellent environment for patients and staff	*20*	120	140	100	125
4	Civic presence	*10*	62	60	50	58
5	Practicality	*10*	58	60	50	57
			599	**660**	**480**	**600**
Frenchay New Build						
1	Enables the delivery of the clinical and service models	*40*	268	320	360	317
2	Flexible and future proof	*20*	130	160	180	158
3	Provides an excellent environment for patients and staff	*20*	140	180	160	165
4	Civic presence	*10*	66	80	60	71
5	Practicality	*10*	68	90	80	82
			671	**830**	**840**	**793**
Southmead North						
1	Enables the delivery of the clinical and service models	*40*	237	200	200	209
2	Flexible and future proof	*20*	113	140	100	123
3	Provides an excellent environment for patients and staff	*20*	113	120	80	108
4	Civic presence	*10*	54	50	50	51
5	Practicality	*10*	50	50	40	48
			568	**560**	**470**	**540**
Southmead South						
1	Enables the delivery of the clinical and service models	*40*	315	320	320	319
2	Flexible and future proof	*20*	156	160	160	159
3	Provides an excellent environment for patients and staff	*20*	155	160	180	164
4	Civic presence	*10*	79	80	80	80
5	Practicality	*10*	78	60	90	72
			783	**780**	**830**	**793**

8.4.2 Results of Non-Financial Option Appraisal – Perceived Advantages and Disadvantages

8.4.2.1 Do Minimum

Benefit 1 - Enables the delivery of the clinical and service models:	Would not facilitate the provision of the clinical model of care. Would not provide an environment that promoted clinical excellence. Maintains dysfunctional arrangement for education and research. Does not allow for meeting national consumerism standards, particularly in in-patient services. Does not allow reconfiguration of services and continues split services across two sites, with consequent inefficiencies and risk.
Benefit 2 - Flexible and future proof	Poor clinical adjacencies and split services mean not robust solution to provision of future services. Development and expansion of services will further exacerbate the current poor clinical adjacencies, inefficiencies and dysfunctionalities.
Benefit 3 - Provides an excellent environment for patients and staff:	Would continue the problems of providing services across two sites, with implications for staff recruitment. Will continue problems with providing medical cover across two sites, with implications for junior doctors' hours. The shortcomings of the existing estate is such that even when upgraded, much of it would not be fit for purpose.
Benefit 4 - Civic presence	Does not provide opportunities for improved design, or improvements to current site layouts.
Benefit 5 - Practicality	Would not have staff support, nor the support of a large proportion of the public, who supported the single site acute hospital during the engagement and consultation exercises.

8.4.2.2 Frenchay Refurbishment – score 600

Benefit 1 Enables the delivery of the clinical and service models:	Problem in achieving current consumerism standards in the refurbished clinical areas, e.g. wards. Design could restrict flexibility in staff arrangements in the in-patient areas, would not facilitate staffing model planned in new build.
Benefit 2 Flexible and future proof	Could be limited in expansion/change opportunities
Benefit 3 Provides an excellent environment for patients and staff:	Not clear would provide a high quality environment for patients and staff.
Benefit 4 Civic presence	Refurbished hospital could sit uncomfortably in the centre of non-patient related development. Possible to create a new, clear identity within retained Phase One.
Benefit 5 Practicality	Would require decanting of our reprovision of the services currently provided in Phase One.

8.4.2.3 Frenchay New - score 793

Benefit 1 Enables the delivery of the clinical and service models:	Ability to achieve an environment, which would support current standards of clinical care. Accommodation would meet current consumerism standards.
Benefit 2 Flexible and future proof	Plan clearly demonstrates the opportunity for expansion and flexibility.
Benefit 3 Provides an excellent environment for patients and staff:	Comprehensive design brief would ensure the excellence of the new environment.
Benefit 4 Civic presence	Would allow fit for purpose, high quality design, to complement the environs. Could create civic presence, seen from road.
Benefit 5 Practicality	Would enable services to be maintained in existing accommodation, whilst taking forward the new build option. Potential site for new build would not compromise operational services.

8.4.2.4 Southmead South - score 793

Benefit 1 Enables the delivery of the clinical and service models:	Would achieve a reconfiguration and rationalisation of services providing improvements in functional suitability and adjacencies. Proximity of proposed pathology an advantage, minimising transportation of samples. Clinical adjacencies are good between the acute services and the AOC treatment centre, encouraging good clinical links. With use of Elgar House as focus for education and research would facilitate clear identity for education and enable flexibility of provision.
Benefit 2 Flexible and future proof	Flexibility for small scale development plus the ability to add a further bed tower at a later date, if required.
Benefit 3 Provides an excellent environment for patients and staff:	Would provide modern, high quality buildings appropriate for healthcare delivery in the 21st century. Access to site, 360 degrees Long entrance approach road would aid orientation for patients and visitors. Good orientation in terms of aspect and light.
Benefit 4 Civic presence	Design more coherent.
Benefit 5 Practicality	Easier option in terms of enabling work.

8.4.2.5 Southmead North - score 540

Benefit 1 Enables the delivery of the clinical and service models:	Would achieve reconfiguration and rationalisation of services providing improvements in functional suitability and adjacencies Distance from pathology a strong disadvantage in terms of convenience and speed of results. Greater separation of zones, leading to clinical disadvantages, and longer travelling distances. Larger podium area could allow continuum of emergency care. Use of Lifeline building as a focus for education and research would facilitate clear identity for education and enable flexibility of provision, Separation of acute services from the AOC would lead to inefficient clinical adjacencies, and diseconomies of scale.
Benefit 2 Flexible and future proof	Flexibility for small scale development.
Benefit 3 Provides an excellent environment for patients and staff:	Would provide modern, high quality buildings appropriate for healthcare delivery in the 21st century. Access to site, 270 degrees. Proximity of development to main Monks Park Road entrance would not facilitate clear signposting and orientation of visitors to site.
Benefit 4 Civic presence	Could create clear civic presence.
Benefit 5 Practicality	Increased problems in enabling/decanting.

As indicated above the preferred options as a result of the non-financial appraisal are:

- **SOUTHMEAD NEW BUILD SOUTH**
- **FRENCHAY NEW BUILD**

SECTION 9: FINANCIAL APPRAISAL

9.1 INTRODUCTION

This section provides an economic appraisal of the short listed options described in Section 7 and a value for money comparison for the preferred option between the two alternative procurement options (publicly funded capital and the Private Finance Initiative).

The economic appraisal has been conducted in accordance with the following guidance:

- The Green Book - Appraisal and Evaluation in Central Government plus supplementary guidance published by HM Treasury, January 2003
- Principles of Generic Economic Model for Outline Business Case Option Appraisal published by the Department of Health, August 2004
- Calculating the Adjustment for Optimism Bias (Build Schemes) published by the Department of Health, November 2004
- Value for Money Assessment for PFI Guidance published by the Department of Health, September 2005

9.2. FINANCIAL APPRAISAL OF THE SHORTLISTED OPTIONS

9.2.1 Methodology

The costs of each option have been quantified and compared over the life of the scheme using economic appraisal techniques.

Costs and income (ie cashflows) have been assigned to each year of the scheme and have been subjected to the technique of discounting which takes account of different timings of options, so that more weight is given to earlier costs than to later costs. This reflects the preference to pay costs later rather than sooner, and receive income sooner rather than later.

The discounted cashflows for each year of the scheme are added together to calculate the net present cost (NPC) of total expenditure. An alternative measure is the equivalent annual cost (EAC) which is the total discounted cashflow divided by the sum of the discount factors, to give an average discounted cost per year. This allows schemes that span different time periods to be compared.

Discounted cashflows have been calculated in accordance with the Department of Health's Generic Economic Model (GEM). The general principles are:

- All costs are at a constant price base. The price base is 2005/06.
- The economic appraisal focuses on the real economic consequences to the public sector as a whole. Indirect taxes (eg VAT), non-cash transfers (eg capital charges) and income from public sector bodies are excluded.
- Net present costs and equivalent annual costs are calculated for alternative time periods. These are firstly, the economic life of the building (60 years) plus the procurement and construction period, and secondly, the PFI contract period (30 years) plus the procurement and construction period. The procurement and construction period is 8 years including 2005/06, giving time periods of 68 years and 38 years.

- The discount rate is 3.5% for the first 30 years, and 3% thereafter in line with Treasury guidance.

A further adjustment is made for risk, with the risks of each scheme being quantified by year and discounted to enable comparison. This gives a total risk adjusted net present cost and annual equivalent cost for each scheme.

The total risk adjusted discounted costs are then compared with the non-financial benefit scores described in Section 8 in order to combine the financial and the non-financial analysis. The costs are divided by the non-financial benefit scores to calculate a unit cost per benefit point. This provides an indication of best value for money. However, regard must also be given to the absolute cost of the options and their affordability.

9.2.2 Key Inputs

The following section summarises the cost categories and values that are input into the cashflow model, in order to calculate net present costs and equivalent annual costs. The cashflow model used is the Department of Health's Generic Economic Model (GEM). The detailed GEM is available for information if required. The categories are:

- Initial capital costs
- Lifecycle costs
- Opportunity costs
- Transitional costs
- Building running costs
- Other operating costs

Initial capital Costs:

Capital construction and equipment costs have been prepared for the short listed options by the Trust's technical advisers. The costs included in the discounted cashflow model exclude VAT. They have been phased over the construction period in accordance with cost schedules prepared by the Trust's technical advisers and uplifted to allow for planning contingencies and optimism bias. The capital costs are summarised in the table below, and the full detail is included in the OB forms in Appendix 16. The capital values in the GEM are based on the capital costs in the OB forms at MIPs 445 approval index (line 12).

The planning contingency is 10% and covers cost overruns, claims for disruption and loss, claims for additional professional fees, time overruns e.t.c.

Optimism bias reflects the tendency for costs to be underestimated, especially during the early stages of developing and costing schemes. It relates mainly to changes in the scope of a scheme (as defined by the output specification) which may increase costs between OBC and FBC. Examples include developments in national policy, changes in local priorities and strategies, and changes in how services are delivered. It also reflects the tendency for costs to increase as more detailed planning is undertaken, as a result of omissions or user aspirations.

The optimism bias calculations made in this appraisal have been calculated using Department of Health guidance. The calculation establishes the upper bound (i.e. the expected starting point for optimism bias for the type of scheme) and then applies mitigating factors to determine the lower actual size of the adjustment. Optimism bias for the shortlisted options ranges from 10.4% to 13.5%. This analysis is included in Appendix 17.

Table 9.2.2i – Summary of Capital Costs

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Construction costs	131,522	322,053	307,631	33,342	45,185
Equipment costs	27,812	25,924	25,924	1,888	1,888
Optimism Bias)	20,554	39,321	34,690	4,756	5,084
Total	179,888	387,298	368,245	39,986	52,157
Optimism bias (%)	12.9%	11.3%	10.4%	13.5%	10.8%

Lifecycle Costs:

Lifecycle costs have been prepared by the Trust's technical advisers. These represent the costs of maintaining the building during its life, including refurbishment and replacement. The costs are summarised in the following table.

Table 9.2.2ii – Summary of Lifecycle Costs

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Over 30 years	169,700	134,310	138,000	15,200	15,300
Over 60 years	327,600	237,600	240,000	29,300	29,600

Opportunity Costs:

Opportunity costs represent the theoretical value of land and buildings. They reflect the fact that each scheme requires the use of existing land. This is shown as a cost in the discounted cashflow at the start of the appraisal for each option, because there is a lost opportunity of selling the land for some alternative use. It is then reversed out as an income in the final year of the appraisal, reflecting the theoretical sale of land at the end of the scheme. In both of the Frenchay new build and refurb options, the planned sale of the surplus element of the Frenchay site on the move of acute services to the Southmead site is assumed to take place in 2014/15, and then the reversal of the opportunity cost in the final year is commensurately reduced.

The buildings will also have a value at the end of the scheme. This is called residual value and this is also shown as an income. The value of buildings at the start of the scheme is minimal and has therefore been excluded, but in any event it is equal for each option.

The following table summaries the opportunity costs.

Table 9.2.2.iii – Summary of Opportunity Costs

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Current market value of land	109,920	55,980	55,980	53,940	53,940
Less sale of land during the appraisal period	0	0	0	-27,200	-22,800
Market value of land at end of scheme	-109,920	-55,980	-55,980	-26,740	-31,140
Residual value of buildings at end of 30 years	-83,400	-217,800	-207,000	-22,400	-29,300
Residual value of buildings at end of 60 years	-41,700	-108,900	-103,500	-11,200	-14,600

Transitional Costs:

Transitional costs are one-off costs associated with delivering the project which do not have permanent value. They include costs of commissioning, double running, project management and procurement. The following table summaries the costs for each option.

Table 9.2.2.iv – Summary of Transitional Costs

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Commissioning and double running	1,200	5,785	5,785	715	715
Project management and procurement	4,189	7,486	7,265	463	604
Other	0	927	927	2,000	2,000
Total	5,389	14,198	13,977	3,178	3,319

Building Running Costs:

Building running costs include utilities, cleaning and building maintenance. The running costs for the new build element of each option are based on benchmark costs per square metre for utilities, cleaning and building maintenance. Rates are excluded as they represent a transfer cost within the public sector

The following table summaries the recurrent annual costs from 2013/14 onwards.

Table 9.2.2.v – Summary of Building Running Costs

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Building running costs per annum	13,507	11,385	11,385	911	888

Other Operating Costs:

The clinical service costs of each option are included in the economic appraisal, together with non-clinical costs. Non-clinical costs are support services such as portering and laundry and central functions such as finance and human resources.

The impact of service and activity transfers has been quantified and reflected in the relevant year, together with savings associated with each option.

The costs to other public sector organisations have been included, so that an economic assessment of the costs to the public sector as a whole can be evaluated. These include the costs of service transfers to community locations and other Trusts, and the costs of activity transfers to other Trusts as a result of the change in location of acute hospitals. These transfers are costed at the national tariff where available, and where not at local tariffs.

The following table summaries the recurrent annual costs from 2017/18 onwards. The annual costs between 2013/14 and 2017/18 vary due to phasing of savings and transitional costs.

Table 9.2.2.vi – Summary of Other Operating Costs

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Clinical costs	239,245	220,027	220,016	6,392	6,179
Non clinical costs	38,854	35,203	35,123	339	339
Externalities	14,959	20,325	20,325	0	0
Total	293,058	275,555	275,464	6,731	6,518

The total of the combined Southmead and Frenchay operating costs is lower than that of the do minimum option. This reflects the lower level of efficiency gains possible in the do minimum option, as a consequence of being unable to implement the planned model of care within the current configuration of buildings. The annual efficiency savings achievable after full implementation are summarised in the following table.

Table 9.2.2vii – Summary of Savings

	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Savings	2,577	14,690	14,781	0	213

9.2.3 Risk

The work undertaken on risk analysis follows the guidance issued by the Department of Health on identifying and quantifying risks in PFI schemes. The risks of each option have been assessed and quantified in terms of a variation to the cost base and the probability of the risk occurring. The risks are described in more detail in Section 13 on Risk Management. The cost of each risk has been assigned to the relevant year and the cashflows have been discounted to give a net present cost of risk for each option and an equivalent annual cost of risk for each option. The risk analysis is included in Appendix 18a and 18b.

The following tables summarise the net present cost (NPC) and the equivalent annual cost (EAC) of risk for each option over the two appraisal periods.

Table 9.2.3.i – NPC risk analysis summary for short listed options (base case appraisal period – 68 yrs)

Risk Category	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Design & Construction	37,982	63,668	58,834	9,072	8,628
Availability and performance related to hard FM and lifecycle	36,934	30,792	30,824	1,876	1,941
Other	199,124	112,994	112,982	5,470	3,284
Total NPC	274,040	207,454	202,640	16,418	13,853

Table 9.2.3.ii – EAC risk analysis summary for short listed options (base case appraisal period - 68 yrs)

Risk Category	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Design & Construction	1,471	2,465	2,279	351	335
Availability and performance related to hard FM and lifecycle	1,431	1,193	1,194	73	75
Other	7,713	4,377	4,376	212	127
Total EAC	10,615	8,035	7,849	636	537

Table 9.2.3.iii – NPC risk analysis summary for short listed options (alternative appraisal period - 38 yrs)

Risk Category	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Design & Construction	35,868	58,978	54,391	8,576	7,973
Availability and performance related to hard FM and lifecycle	26,510	22,101	22,124	1,346	1,394
Other	143,011	81,331	81,311	3,950	2,387
Total NPC	205,389	162,410	157,826	13,872	11,754

Table 9.2.3.iv –EAC risk analysis summary for short listed options (alternative appraisal period - 38 yrs)

Risk Category	Do Minimum £000	SMD North £000	SMD South £000	FHY Refurb £000	FHY New Build £000
Design & Construction	1,721	2,831	2,610	411	382
Availability and performance related to hard FM and lifecycle	1,272	1,060	1,062	65	67
Other	6,862	3,902	3,901	190	115
Total EAC	9,855	7,793	7,573	666	564

9.2.4 Cost Benefit Analysis

The key inputs described in 9.2.2 have been quantified over the life of the scheme for each option using the techniques described in the methodology section (9.2.1). The key input cost categories are capital, lifecycle, opportunity, transitional, building running costs and other operating costs. This gives a net present cost (NPC) for each option and an equivalent annual cost (EAC) for each option, before risk.

Risk has been quantified over the life of the scheme for each option as described in 9.2.3, to give an NPC and an EAC of risk for each option.

Combining all costs, including risk, enables the calculation of a risk adjusted net present cost (NPC) for each option and a risk adjusted equivalent annual cost (EAC) for each option.

These costs are then compared with the non-financial benefit scores described in Section 8, in order to combine the financial and the non-financial analysis. The costs of the options are divided by the non-financial benefit scores to calculate a comparative unit cost per benefit point. The cost per benefit point is an indicator of relative value for money and the options are ranked on this basis, with rank 1 indicating the option with the lowest unit cost per benefit point. The comparative absolute costs are also important, as an indicator of affordability.

9.2.4.1 Appraisal of alternative Southmead options

The costs and benefit scores of the Southmead options are compared in the tables below:

Table 9.2.4.1.i Cost benefit comparison of Southmead options based on net present cost (NPC)

	68 Years (Base Case Appraisal Period)		38 Years (Alternative Appraisal Period)	
	SMD North £000	SMD South £000	SMD North £000	SMD South £000
NPC	8,699,968	8,682,490	6,991,889	6,977,668
Risk Adjustment	207,454	202,640	162,410	157,826
Risk Adjusted NPC	8,907,422	8,885,130	7,154,299	7,135,494
Benefit Score	540 points	793 points	540 points	793 points
Cost per benefit point	16,495	11,204	13,249	8,998
Rank	2	1	2	1

Table 9.2.4.1ii – Cost benefit comparison of Southmead options based on equivalent annual cost (EAC)

	68 Years (Base Case Appraisal Period)		38 YEARS (Alternative Appraisal Period	
	SMD North £000	SMD South £000	SMD North £000	SMD South £000
EAC	318,800	318,159	323,522	322,864
Risk Adjustment	8,035	7,849	7,793	7,573
Risk Adjusted EAC	326,835	326,008	331,315	330,437
Benefit Score	540 points	793 points	540 points	793 points
Cost per benefit point	605	411	614	417
Rank	2	1	2	1

This shows that the Southmead South option demonstrates both lower whole life costs and higher non-financial benefits. Consequently it has a lower cost per benefit point. It is therefore clearly the preferred Southmead option.

9.2.4.2 Appraisal of alternative Frenchay options

The costs and benefit scores of the Frenchay options are compared in the tables below.

Table 9.2.4.2i – Cost benefit comparison of Frenchay options based on net present cost (NPC)

	68 Years (Base Case Appraisal Period)		38 Years (Alternative Appraisal Period)	
	FHY Refurb £000	FHY New Build £000	FHY Refurb £000	FHY New Build £000
NPC	238,107	249,804	188,273	200,235
Risk Adjustment	16,418	13,853	13,872	11,754
Risk Adjusted NPC	254,525	263,657	202,145	211,989
Benefit Score	600 points	793 points	600 points	793 points
Cost per benefit point	424	332	337	267
Rank	2	1	2	1

Table 9.2.4.2ii – Cost benefit comparison of Frenchay options based on equivalent annual cost (EAC)

	68 Years (Base Case Appraisal Period)		38 Years (Alternative Appraisal Period)	
	FHY Refurb £000	FHY New Build £000	FHY Refurb £000	FHY New Build £000
EAC	8,725	9,153	8,711	9,265
Risk Adjustment	636	537	666	564
Risk Adjusted EAC	9,361	9,690	9,377	9,829
Benefit Score	600 points	793 points	600 points	793 points
Cost per benefit point	16	12	16	12
Rank	2	1	2	1

This shows that the refurbishment option has the lowest whole life cost, but the new build option has the lowest cost per benefit point. This indicates that the new build option may be preferable on the basis of overall value for money, but the refurbishment option is preferable on the basis of lowest overall cost. This indicates that if the Trust was able to afford the additional cost of the new build option, it would provide additional benefits more than commensurate with the additional cost. The key issue in deciding whether it can opt for the new build option is whether it can afford the additional cost.

The additional cost can be looked at in the three ways :-

i) The overall additional cost over the 68 year appraisal period

This additional cost is £9.13m, which is undoubtedly very significant.

ii) The initial capital cost

The initial capital cost of the new build option is £52.2m, £12.2m more than that of the refurbishment option at £40.0m. The BHSP affordability assessment completed over the Summer projected a capital cost for the Frenchay scheme of £33m (based on the assumption of a refurbishment scheme). Both options cost in excess of the £33m, but the new build option would cost significantly more. Depending on the funding source for the initial capital cost, this additional £12.2m would also present additional capital affordability difficulties.

iii) The annual revenue cost

The annual revenue costs (including capital charges) of the two options in the first full year of operation are compared below :-

Table 9.2.4.2.iii - Annual revenue cost comparison of the Frenchay options

	Annual revenue cost	
	FHY Refurb £000	FHY New Build £000
Building capital charges	3,717	4,697
Land capital charges	616	722
Premises running costs	1,086	1,098
Other costs	6,731	6,518
Total	12,150	13,035

This

indicates that the annual revenue cost of the new build option exceeds that of the refurbishment option by £0.9m per annum. This is a significant additional annual cost, which could only be afforded by securing additional savings. The viability of this needs to be considered in the context of the BHSP affordability assessment, which concluded that the existing savings plans are already high risk.

In light of the scale of the additional cost of the new build option as outlined above, and given the particular concern to ensure that the OBC proposals as part of the wider BHSP plans are affordable, the refurbishment option is proposed as the preferred option for the Frenchay site.

It is not possible for the Frenchay scheme as a refurbishment scheme to proceed in the very short term, given that the Phase 1 building it is based on, is required for existing services. In light of this, the decision to opt for the refurbishment option can be kept under review until the point at which a final decision needs to be made to proceed with a definitive Frenchay scheme that can be completed by 2013/14.

9.2.4.3 Combined preferred option compared with do minimum

The costs of the preferred Southmead South option and the preferred Frenchay refurbishment option have been combined to create the total preferred option, in order to compare with the do minimum option.

The combined costs of Southmead South and Frenchay refurbishment are shown in the tables below. The benefit scores have been weighted to allow a comparison with the do minimum option. The weighting is based on floor area. The weightings applied to the benefit scores are 90% for Southmead South and 10% for Frenchay refurbishment.

The costs and benefit scores of the preferred option and the do minimum option are compared in the tables below.

Table 9.2.4.3.i – Cost benefit comparison of preferred and do minimum options based on net present cost (NPC)

	68 Years (Base Case Appraisal Period)		38 Years (Alternative Appraisal Period	
	SMD South & FHY Refurb £000	Do Minimum £000	SMD South & FHY Refurb £000	Do Minimum £000
NPC	8,920,598	8,984,380	7,165,941	7,189,735
Risk Adjustment	219,057	274,040	171,698	205,389
Risk Adjusted NPC	9,139,655	9,258,420	7,337,639	7,395,124
Benefit Score	773.7 points	271 points	773.7 points	271 points
Cost per benefit point	11,813	34,164	9,484	27,288
Rank	1	2	1	2

Table 9.2.4.3.ii– Cost benefit comparison of preferred and do minimum options based on equivalent annual cost (EAC)

	68 Years (Base Case Appraisal Period)		38 Years (Alternative Appraisal Period)	
	SMD South & FHY Refurb £000	Do Minimum £000	SMD South & FHY Refurb £000	Do Minimum £000
EAC	326,884	329,221	331,576	332,677
Risk Adjustment	8,485	10,615	8,238	9,855
Risk Adjusted EAC	335,369	339,836	339,814	342,532
Benefit Score	773.7 points	271 points	773.7 points	271 points
Cost per benefit point	433	1,254	439	1,264
Rank	1	2	1	2

This shows that the preferred option of Southmead South and Frenchay refurbishment has both a lower risk adjusted net present cost in absolute terms and a lower cost per benefit point than the do minimum option. Therefore it is clearly preferable to the do minimum option, and thus it is confirmed as the preferred option.

9.2.5 Sensitivity Analysis

Sensitivity analysis has been carried out to assess the robustness of the ranking of options in the cost benefit analysis, and described above.

The sensitivity analysis has been carried out by flexing key assumptions in the economic appraisal, and assuming that all other variables remain constant. The key assumptions flexed are as follows :-

- Capital and lifecycle costs increasing by 10%
- Capital and lifecycle costs decreasing by 10%
- Revenue savings increasing by 20%
- Revenue savings decreasing by 20%
- Premises running costs increasing by 10%
- Premises running costs decreasing by 10%

Sensitivity analysis is first undertaken on the appraisal of the alternative Southmead options and the alternative Frenchay options. The results of this sensitivity analysis are set out in Appendix 19. The analysis demonstrates that the cost benefit appraisal rankings do not change as a result of the variations in the key cost drivers. Under all scenarios, Southmead South demonstrates the lowest absolute cost and lowest cost per benefit point. Frenchay refurbishment continues to demonstrate the lowest absolute cost under all scenarios, but Frenchay new build continues to demonstrate the lowest cost per benefit point.

An additional analysis has also been carried out to identify the values at which the economic preference for Southmead South and Frenchay refurbishment are switched to a preference for the second ranking opinion.

In the case of the Frenchay comparison, given that the selection of the preferred option has been based on the its net present cost, the switching point identified is the one at which the net present cost of the new build option would become lower than that of the refurbishment option. On this basis, the capital and lifecycle costs of Frenchay refurbishment would need to increase by 18% to switch the preference to new build. Given the inherent difficulties of costing refurbishment accurately at this stage of scheme development, it is conceivable that the cost of the refurbishment option, could be 18% higher, so eliminating its net present cost advantage over the new build option. As stated in section 9.2.4.2, while it is proposed to opt for the refurbishment option, this will be kept under review until the point at which a final decision needs to be made to proceed with a definitive Frenchay scheme that can be completed by 2013/14.

A similar exercise has been undertaken for the Southmead comparison. As there is a large difference in benefit points between the two Southmead options, there would need to be a very large £4billion increase in the total whole life cost of Southmead South to switch the economic preference based on cost per benefit point. This represents a 47% increase in total whole life costs. Switching analysis has therefore also been undertaken on the total net present cost of the Southmead options. This shows the capital and lifecycle costs of Southmead South would need to increase by 5% to switch the preference to North.

While this is a relatively small margin, it would still be unlikely given that the Southmead North option has inherently higher decant costs. In any event, this would still leave a major value for money advantage with Southmead South due to its much higher benefit points. It is therefore concluded that the preference for Southmead South would not change as a result of variations in the key cost drivers that are likely to occur in practice.

The sensitivity analysis is then repeated for the appraisal of the combined Southmead South and Frenchay refurbishment option with the do minimum option. The results of this sensitivity analysis are set out in Appendix 17. The analysis demonstrates that the cost benefit appraisal rankings again do not change as a result of the variations in the key cost drivers. Under all scenarios, the preferred option of Southmead South and Frenchay refurbishment has both lower absolute costs and the lower cost per benefit point than the do minimum option.

An additional analysis has also been carried out to identify the values at which the preference for Southmead South and Frenchay refurbishment is 'switched' to a preference for the do minimum option. As there is a large difference in benefit points between the preferred option and the do minimum option, there would need to be a huge increase of £17 billion in the total whole life costs of the preferred option to switch the preference, representing a tripling of total whole life costs. The switching analysis has therefore also been undertaken on total net present cost. The results are:

- The capital and lifecycle costs of the preferred option would need to increase by 23% to switch the preference to the do minimum option, in terms of total net present cost over the life of the scheme.
- The savings of the preferred option would need to reduce by 43% to switch the preference to the do minimum option, in terms of total net present cost over the life of the scheme.

Both of these are possibilities, although not considered likely. However, if they did occur this would only result in the options being equal in total cost terms. There would still be a very large value for money advantage for the preferred option due to its much higher benefit points. Thus the appraisal conclusion of a preference for the Southmead South and Frenchay refurb option over the do minimum option would not change as a result of variations in the key cost drivers that are likely to occur in practice.

9.3 VALUE FOR MONEY ASSESSMENT OF THE PROCUREMENT ROUTE FOR THE PREFERRED OPTION

9.3.1 Methodology

An assessment of the value for money of procurement through conventional public funding compared with the Private Finance Initiative (PFI) has been carried out for the preferred option. The conventional publicly funded option is termed the Public Sector Comparator (PSC).

The assessment includes a quantitative and qualitative analysis in accordance with the Department of Health's "Value for Money Assessment for PFI" issued in September 2005. The quantitative assessment tests the value for money of PFI. The qualitative assessment considers the viability, desirability and achievability of PFI.

The quantitative assessment has been undertaken using the Department of Health's Value for Money model. The outputs from the model provide a comparison between the risk adjusted net present costs (NPC) of the public sector comparator (PSC) and the PFI option. The estimated net present cost for the PFI option is derived within the model from the public sector costs, risk transfer and PFI funding costs.

This assessment has been carried out on the basis that the following aspects of the preferred option are excluded from the comparison, for the reasons outlined :-

- The Frenchay Refurbishment element of the scheme is excluded in its entirety. This is because the Trust does not wish to proceed with procurement at this stage, as there are a number of factors that might still influence the final shape of the scheme, including the possibility of an Independent Sector Treatment Centre being developed on the site. Keeping options open until a procurement needs to commence is therefore a prudent response to the current uncertainty. In any event, given that the scheme as currently envisaged is a refurbishment scheme, it would be unlikely to be suitable for PFI finance in its own right.
- Soft FM for the Southmead scheme is excluded. This is because the Trust has made a preliminary qualitative and quantitative assessment that it is not likely to provide superior value for money within a PFI deal.
- Equipment associated with the Southmead scheme is excluded. While the Trust is considering including a proportion of equipment in any PFI deal, it does not consider that the methodology for comparing the PSC and PFI options described above is sufficiently sensitive to assess the value for money of inclusion or exclusion of additional elements such as equipment.
- Enabling costs are excluded as these would be intended to be completed (and financed from public monies) in advance of a PFI deal being signed.

Thus the comparison is limited to the construction costs (excluding enabling) of the Southmead South component of the preferred option. Section 15 of this OBC (Preparing for Procurement) sets out the Trust's thinking on the issues outlined above in more detail.

9.3.2 Quantitative Value for Money Assessment

9.3.2.1 Key inputs

The Value for Money model only considers costs that will vary depending on the preferred procurement route (ie public sector funding or private finance initiative). All operating costs other than hard FM costs are therefore excluded from the model.

The key inputs to the model are :-

- Whole life costs for PSC and PFI including capital, lifecycle and hard FM costs (i.e. building maintenance), site management costs and insurance.
- Interest rates, bank margins etc that impact on the PFI company's funding costs
- Optimism bias
- Risk transfer
- Transaction costs

The inputs and outputs of the model are detailed in Appendix 21. A brief summary of the key inputs is described in the following paragraphs.

Whole Life Costs and Optimism Bias:

The whole life costs and optimism bias are consistent with the inputs to the Generic Economic Model that are described in section 9.2 above.

PFI Company's Funding Costs:

The PFI company's funding costs are based on current market conditions and advice from financial advisers.

Risk Transfer:

Risk transfer to the private partner has been assessed at 16% for capital and 12% for lifecycle and operating costs, based on Department of Health guidance. This is consistent with the assessment of the overall risk of the Southmead South option, which is higher. Risk transfer is fundamental to a PFI scheme and reflects the transfer of construction and design risks to the PFI partner during the construction phase, and the transfer of lifecycle and hard facilities management (FM) risks for the length of the contract. The outsourcing of risk and its management allows the Trust to concentrate on its core activities.

Transaction Costs:

Transaction costs have been estimated at 2% of public sector capital expenditure in line with Department of Health guidance for both the public sector comparator and the PFI scenario.

9.3.2.2 Results

The Value for Money model has calculated the value for money margin of PFI compared with conventional public funding, based on an internal rate of return of 15%. The internal rate of return represents the return required by the PFI company's shareholders. The value for money margin is +1.18%. This means that PFI is better value for money than public sector capital by 1.18%.

9.3.2.3 Sensitivity

A sensitivity analysis has been carried out to assess the level of change required in individual inputs to switch the preferred procurement route to public sector capital. The results of the sensitivity analysis are also included in Appendix 18. This shows that the inputs that have most impact on the overall value for money margin are capital costs and the PFI unitary charge.

If the capital cost of the PSC increased, this would tend to increase the value for money of PFI above 1.18%, while decreases in capital cost would tend to reduce the value for money margin below this level. PFI remains the best value for money unless the capital cost of the PSC fell to 98% of the estimated cost. Historical evidence suggests an upward movement in PSC capital costs may be more likely than a downward movement.

If the unitary payment to the PFI contractor increased (due to rising interest rates or higher margins), then the value for money of PFI would fall. Conversely, if the unitary payment fell, the value for money of PFI would increase. The unitary payment includes a 0.5% buffer against interest rate rises. At current rates the unitary payment would therefore be lower. Therefore there is already some tolerance built in for rate increases but not rate decreases.

In addition, the likely funding route for the scheme would be bond finance, which would be likely to reduce the unitary payment below the level assumed in the model (which is based on bank finance), provided the macro-economic environment remained the same. It could be argued therefore that the more likely movement in the unitary payment is downward, so increasing the value for money of the PFI option.

Taking these two points into account, it could be argued the most likely movements in these two key inputs would both improve the PFI margin. There are obviously input changes possible that could reduce the value for money margin to zero or below. However, given the points above it is reasonable to conclude that sensitivity analysis supports the view that PFI is slightly preferable to conventional funding.

9.3.2.4 Qualitative Value for Money Assessment

The qualitative assessment takes the form of a series of questions that procuring authorities should answer before concluding whether PFI is the most appropriate procurement route for a project. These questions, together with the associated Trust responses, are set out below.

VIABILITY
Investment objectives and desired outcomes need to be translatable into outputs which can be contracted for, measured and agreed. many service areas can be described in contractual terms, but some areas will be inherently 'non-contractible'.

ISSUE	QUESTION	TRUST COMMENTARY
Programme level objectives and outputs	1. Is the procuring authority satisfied that operable contracts could be contracted for projects falling in this area? 2. Can these contractual outputs/requirements be robustly assessed? Could the contracts describe service requirements in clear, objective, output-based terms? Could they support assessments of whether the service has been delivered to an agreed standard?	Yes. The Trust will have a Project Agreement for this scheme which will be compliant with the Department of Health Standard Form Project Agreement Version 3. A number of health projects have been closed using the current version of the Standard Form Project Agreement which demonstrates that the proposed contract structure is operable but also marketable and deliverable. In addition, Health PFI is a mature market with 33 major schemes having been signed since May 1997 according to the Department of Health website. Of these 33 projects, 21 are fully operational and are understood to be working well. These specifications will be based around the standard specifications developed by the PFU. They will set out the scheme's service requirements objectively defined in output terms with their delivery measured against clear performance standards.
Operational flexibility	1. Is the procuring authority satisfied that operational flexibility is likely to be maintained over the lifetime of the contract, at an acceptable cost?	Yes. The proposed PFI scheme offers the necessary operational flexibility over time, at an acceptable cost. Variations to the facilities can be adequately covered in the contract and the exclusion of soft FM services allows the Trust to respond to changes in policy and approach in areas such as infection control without variation to the contract.

ISSUE	QUESTION	TRUST COMMENTARY
	2. Have the long term trade offs between operational flexibility and cost been identified?	Yes. The Trust recognises that healthcare delivery may change significantly in the future and therefore the buildings provided under the contract need to be able to accommodate such change with a minimum of expenditure and disruption. The exclusion of equipment, soft FM and IT solutions in particular, allows the Trust long term flexibility in areas where decision-making over changing practices/technology is likely to be on a shorter term cycle than the overall contract.
Equity, efficiency and accountability	1. Are there public equity, efficiency or accountability reasons for providing the service directly, rather than through a PFI contract?	No. There are no reasons on the grounds of public equity, efficiency or accountability why the services should be provided directly.
	2. Are there regulatory or legal restrictions that require services to be provided directly?	No. There are no regulatory or legal restrictions requiring the services to be provided directly.
	3. Have the expected staff terms and conditions been considered and what are the impacts on the contract, equity, efficiency and accountability.	The Trust has explored other equivalent PFI schemes and on this basis expects the final agreement to provide an equitable and efficient solution. To ensure this outcome the Trust has a strategy of making available details of anonymised current staff terms at an early stage in the process to allow clear agreement of assumptions at bidding stage.
OVERALL VIABILITY	1. Overall, in deciding to proceed with PFI, is the accounting officer satisfied that an operable contract with built-in flexibility can be constructed, and that strategic and regulatory issues can be overcome?	Yes. The Trust is satisfied that an operable contract with built-in flexibility can be constructed and that there are no regulatory obstacles to overcome. The Trust considers that a marketable, bankable and deliverable contract can be developed and procured as demonstrated through market interest. 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.

DESIRABILITY
An increasing body of evidence has shown that better risk management in PFI results in a greater proportion of assets being delivered on time and to budget. By integrating the life-cycle and operation costs with the design and construction, PFI can provide better risk management and incentives to develop innovative approaches to output delivery. Consistent high quality services can be achieved through performance and payment mechanisms. However, risk transfer is priced into the contract. The purpose of these questions is to consider whether the benefits of PFI are likely to outweigh this additional cost.

Issue	Question	Trust Commentary
Risk management	1. Does the project involve the purchase of a significant capital asset, where the risks of cost and time over-runs are likely to be significant?	Yes. The project involves the development of a new building of 110,000m^2 on the Southmead Hospital site. This is a major investment on a complex working site with potential access complications Conventional procurement has proven that the risk of cost and time overruns in these projects is significant. The transfer of major elements of design and construction risk to an experienced PFI provider is considered to be appropriate in terms of the level of capital cost risks identified.
	2. Does the project involve operational aspects where the risk of cost and time overrun are likely to be significant?	Yes. The project involves the private sector taking full operational responsibility for the provision of hard FM and lifecycle services plus the associated risk of cost and time overrun in relation to these services.
Innovation	1. Does a preliminary assessment indicate that there is likely to be scope for innovation? To what extent are the projects' scope, specification and operation pre-set or open to negotiation with the private sector?	Yes. There is substantial scope for innovation in respect of building design, construction techniques and operational service delivery. The Trust will encourage innovative bids to meet its output specifications The Trust has noted a strong track-record for PFI is providing innovation on brown-field sites.
Service provision	1. Are there good strategic reasons to retain soft service provision in house? What are the implications in the longer term for the organisation in losing these skills- are all the expertise transferring or is there some retention? e.g. skills to manage contracts or let future similar contracts.	Yes. Nationally there is a strong focus on soft FM being returned to in-house control as patient choice is seen as a key driver in terms of future Trust performance and success. Soft FM services increasingly need to reflect consumer requirements and have a high executive profile within any Trust (e.g. control of infection issues & MRSA) and particularly with Trusts moving towards foundation status. As such, soft service provision is viewed as a core service which requires strong control and ownership. Any transfer of such a service supply to the private sector from the Trust, will result in a loss of direct control, which the Trust considers is an essential strategic requirement for the delivery of this core supporting service.

Issue	Question	Trust Commentary
	2. Is soft service transfer essential for achieving the overall benefits of improved standards of service delivery? What are the relative advantages and disadvantages? Is there a commitment that the assumed benefits are deliverable without eroding the overall terms and conditions for staff? Is transfer necessary to achieve the optimal risk allocation?	No. The Trust is performing well in the delivery of FM services as reflected in its star rating and continues to improve its standard of provision. The advantages of transfer include alignment of risk between hard and soft FM services, and transfer of risks associated with the new building including design of FM areas and harmonisation between the lifecycle and FM approaches. It is unclear however if the transfer of soft FM services provides the optimal risk profile. The disadvantages of transfer include the creation of an interface between clinical and soft FM services and a potential loosening of control over volatile performance targets.
	3. Where soft services are not transferred, is this consistent with the Prime Minister's commitment to flexibility of public service provision? Are there changes in working practices that are only deliverable through transfer or are there other ways these could be achieved and do they offer VfM?	The retention of soft services by the Trust is consistent with the Prime Minister's commitment to flexibility of public service provision. In particular, the soft services will be regularly subjected to independent reviews to ensure that the in-house provision remains "best value". The Trust does not consider that there are any changes to working practices that are only deliverable through transfer. The Trust believes that this is particularly true with the introduction of Agenda for Change that provides a similar pay and conditions framework to the private sector with the opportunities to encourage multi-skilling and competency based pay.
Incentive and monitoring	1. Can the outcomes or outputs of the investment programme be described in contractual terms which would be unambiguous and measurable?	Yes. The outputs can be described in unambiguous contractual terms that are measurable.
	2. Can the service be assessed against an agreed standard?	Yes. The service can be assessed against the relevant standards in the Contract schedules and with the Standard Form Payment Mechanism.
	3. Would incentives on service levels be enhanced through a PFI payment mechanism?	Yes. The Trust considers that a PFI Payment Mechanism draws a direct line between performance and financial/non-financial incentives.

Issue	Question	Trust Commentary
Lifecycle costs and residual value	1. Is it possible to integrate the design, build and operation of the project?	Yes. The contract will be compliant with Standard Form Version 3 (or its successor) and will incentivise the bidders to integrate their approach on initial and subsequent lifecycle costs.
	2. Is a lengthy contract envisaged? Will a long-term contractual relationship be suitable (or advantageous) for the service?	Yes. The contract will be thirty years plus the construction period. The Trust considers that this long-term relationship for the maintenance of a long-term asset will encourage partnership working and be advantageous for the service. The benefits of applying a long-term contract to soft FM services that may require more short-term flexibility are less clear.
	3. Are there significant ongoing operating costs and maintenance requirement? Are these likely to be sensitive to the type of construction?	Yes. There will be significant ongoing operating and maintenance work. There are lifecycle costs and hard FM costs involved, which are sensitive to the type of construction.
Overall Desirability	1. Overall, is the accounting officer satisfied that PFI would bring sufficient benefits that would outweigh the expected higher cost of capital?	Yes. The Trust is satisfied that the benefits of PFI would outweigh the expected higher cost of capital.

ACHIEVABILITY
While PFI may allow a more efficient and effective combination of public and private sector skills, determining the rules that will govern the relationship between the two sectors does involve significant transaction costs. In particular, the procurement process can be complex and significant resources, including senior management time, may be required for project development and the ongoing monitoring of service delivery. Client capability will have direct consequences for procurement times. Perceptions of this capability will also affect the level and quality of market interest. PFI and other contract-based approaches should maximise the benefits of a competitive process – but the structure of proposals and the choice of procurement route should be informed by an assessment of the likely market appetite.

Issue	Question	Trust Commentary
Transaction costs and client capacity	1. Is there sufficient client-side capability to manage the procurement process and appraise ongoing performance against agreed outputs?	Yes. The Trust has adopted a model project management structure and has appointed an experienced and dedicated project team. The Project Director and Deputy Project Director together with the Trust CEO and FD have a track record of successfully completing Health PFI/PPP deals. The Trust will appoint experienced Health PFI financial, technical and legal advisers who have experience in advising on schemes at all stages of the PFI process. The Trust also has access to experienced support at the SHA and DoH. The Trust Board is also fully involved in strategic and financial deliberations on the scheme.

Issue	Question	Trust Commentary
	2. Can appropriately skilled procurement teams be assembled in good time?	Yes. The Trust's procurement team - its Project Board, Project Team, Project Director and financial, technical and legal advisers will be in place in advance of the procurement.
Competition	1. Is there evidence that the private sector is capable of delivering the required outcome?	Yes. The proposed scheme is 'mainstream business' for Health PFI providers and is capable of being funded and delivered by experienced PFI consortia.
	2. Is there likely to be sufficient market appetite for the project?	Yes. Initial soft market testing undertaken by the Trust at OBC stage indicates that there is significant market interest in the scheme amongst established PFI providers. The Trust has carefully packaged the scheme to ensure that it is attractive to prospective bidders and has received site visits from a number of contractors.
	3. How is it expected that the market will receive the proposed risk profile? e.g. what has been the market reaction to similar deals with and without staff inclusion? Or what has been the reaction to the allocation of demand risk?	The market is expected to receive favourably the proposed risk profile. The Trust has produced an indicative Risk Matrix which represents a commercial view of the appropriate and market-acceptable risk allocation between the Trust and an Operator in respect of this PFI scheme. The indicative Risk Matrix is consistent with the allocation of risk seen on other Health PFI schemes and the Standard Form Project Agreement.
OVERALL ACHIEVABILITY	1. Overall, is the accounting officer satisfied that a PFI procurement programme is achievable, given client side capability and the attractiveness of the proposals to the market?	Yes. The Trust believes 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 advisers make this PFI scheme attractive to the market.

9.4 CONCLUSION

The economic appraisal has identified Southmead South and Frenchay Refurbishment as the preferred option. The appraisal compared whole life costs, risks and non-financial benefits for each of the options. A further sensitivity analysis was undertaken to demonstrate the robustness of the preferred option.

An assessment of the preferred procurement route for the Southmead South element of the preferred option was then undertaken (excluding equipment and enabling costs). This compared PFI with conventional procurement, providing a value for money analysis and an assessment of the competitive interest in the project and the market capacity to bid and deliver the project effectively. The assessment concludes that PFI is the preferred procurement route for the Southmead site element of the preferred option.

The procurement route for the Frenchay Refurbishment scheme will be assessed separately at a later stage.

PART D: PREFERRED OPTION

SECTION 10: THE PREFERRED OPTION

10.1 INTRODUCTION

Following the selection of the preferred option for both the Southmead and Frenchay sites, these have been combined to generate a composite preferred option.

The principal benefits of this preferred option are as follows:

- Use of existing good quality estate through the incorporation of Elgar House, Avon Orthopaedic Centre and Frenchay Phase 1 into the preferred option;
- Enabling the continued running of the clinical core services at Southmead by the selection of a site on the South side away from the wards, theatres and main clinical thoroughfare;
- Ability to integrate treatment centre services into the Avon Orthopaedic Centre without substantial adaptation to the building due to the flexible nature of this facility and its current function including theatres, inpatient beds and assessment facilities;
- Ability to integrate this treatment centre into the main hospital site whilst maintaining a degree of separation through separate access routes;

The preferred option has undergone further development in order to support the Business Case process. This development has centred around four distinct but co-ordinated pieces of work:

- Design Brief, Design Review Panel and Outline Planning Application.
- Schedule of Area, Clinical Departmental Plans and Clinical Output Specifications.
- Review of Retained and Refurbished Estate
- Development of a phasing plan and enabling programme
- Incorporation of all the above into a more detailed Public Sector Comparator

10.2 DESIGN BRIEF, DESIGN REVIEW PANEL AND OUTLINE PLANNING APPLICATION

A brief for the design development has been produced by the Design Group and this has formed the basis for development of the Public Sector Comparator, the Outline Planning Application and the specifications for the procurement of the new hospital. The Design Brief is shown in Appendix 19 and it reflects the core requirements of creating a landmark hospital which will be an asset to the local community and support local regeneration. An Outline Planning Application for the Southmead site was submitted in December 2005 following consultation with the public and it is anticipated that a resolution will be received from Bristol City Council in March 2006. A planning application for the Frenchay site will be submitted around December 2006. The preferred option has been developed to take account of the guidance given by NHS colleagues through the Design Review Panel Stage Zero, which underpinned the development of the short list of options and this will be further strengthened through the Design Review Panel Stage One workshop.

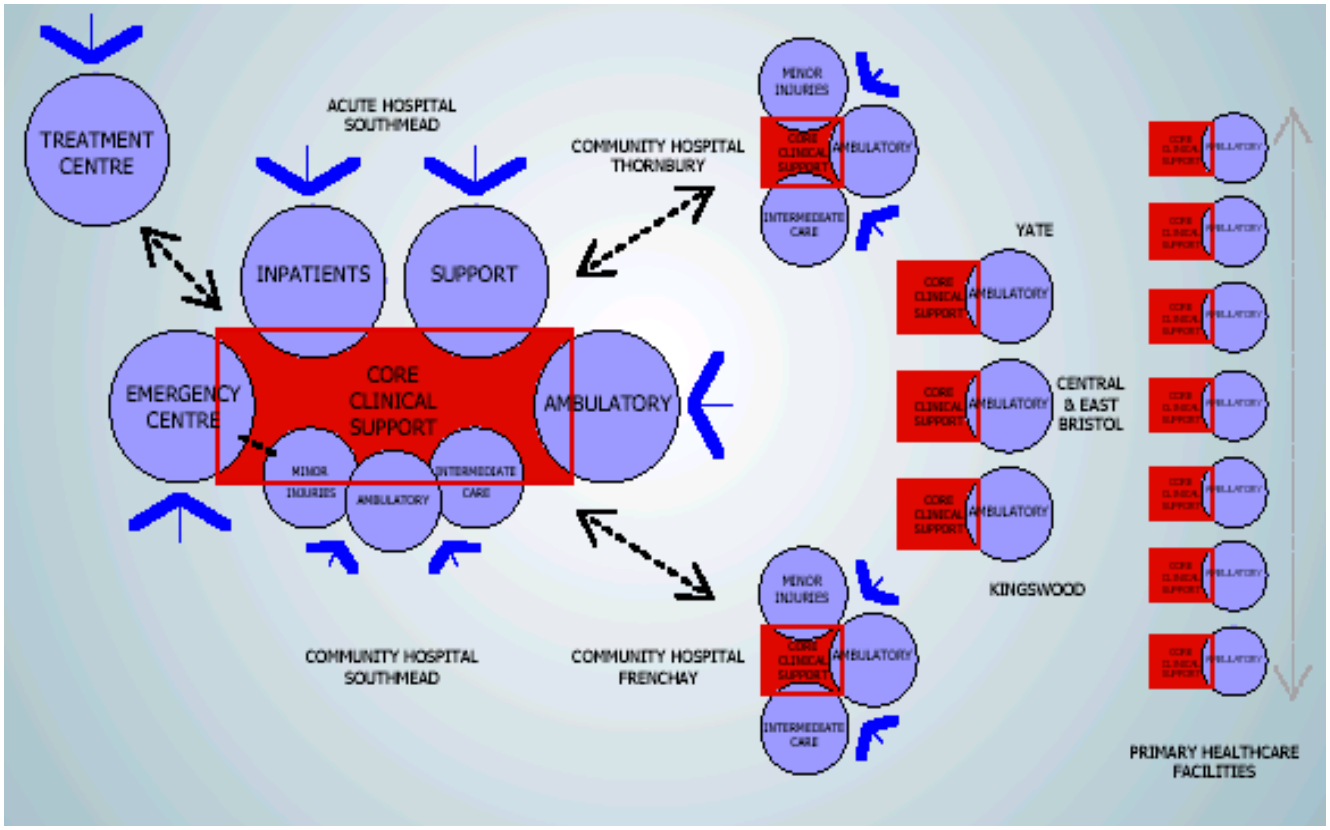
10.3 DESCRIPTION OF SERVICES TO BE PROVIDED

10.3.1 Introduction

The preferred option has three key components:

i) The provision on the Southmead site of an acute, specialist hospital, together with;
ii) A Southmead community hospital integrated with this acute development;
iii) The provision on the Frenchay site of a Community hospital.

The components in this OBC fit within the strategic context across North Bristol and South Gloucestershire, and this is illustrated in the following diagram. The diagram also introduces the zonal approach which is described in detail in this section.



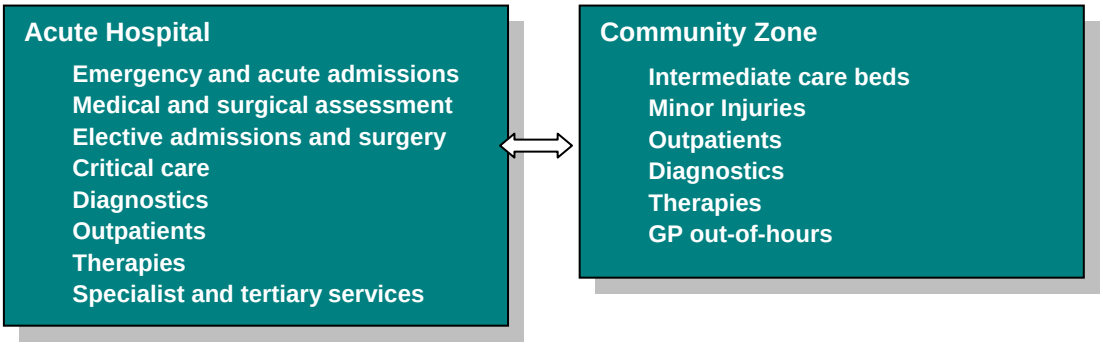
10.3.2 Southmead Site

The North Bristol and South Gloucestershire Healthcare Services Development Programme includes provision of a new acute hospital which is arranged in a number of clinical zones, together with an integrated community hospital.

The new acute hospital will house the acute services currently provided by Frenchay and Southmead Hospitals and will provide general medical and surgical care together with maternity services for the local population of about half a million people in the North Bristol and South Gloucestershire area. The Trust will continue to provide regional and specialist care for people living in the Bristol and Weston area as well as Gloucestershire, Somerset, Wiltshire and further afield, including:

- Neurosciences including neurosurgery and head injuries
- Orthopaedics
- Pathology
- Plastic Surgery including burns services
- Renal services including transplants
- Urology
- Paediatric neurology (Outpatients only)

The services to be included in the acute and community hospital are set out in the figure below:



The Southmead Community Hospital will have 28 beds in the new in-patient zone on the Southmead site.

The total number of acute beds to be provided on the Southmead site will be 947, broken down as:
708 New build beds in 32 bed units, in 96 bed clusters
94 Refurbished beds in the Avon Orthopaedic centre
24 Retained beds in Malvern Ward
121 Retained beds for obstetrics and gynaecology and neonatology.

There will also be 23 theatres in the new development, including 5 theatres in the refurbished AOC. The new Southmead Hospital will also include a comprehensive Imaging Service with 4 MRI, 4 CT, 6 Interventional, 10 Plain Film, 8 U/S,3 Radio-nucleide and 1 mammography room. The hospital will have a new service model operating within the following zones:

- Inpatients zone
- Emergency Care zone
- Ambulatory zone
- Core Clinical zone
- Support zone
- Treatment Centre

The services in the new hospital compared to current provision are as follows:

Table: 10.3.2 – Comparison of provision in current and new Hospital

	Current	Future					Difference
		Southmead			Frenchay	Total	
		Acute	TC	Community			
Theatres	29	17	5	-	-	23	-5
MRI	3	3	1	-	-	4	+1
CT	3	3	1	-	-	4	+1
Fluoroscopy	7	6	-	-	-	6	-1
Plain Film*	19	6	2	2	2	12	-7
Ultrasound	12	4	2	1	2	10	-3
Radionucleide	3	3	-	-	-	3	0
Mammography	1	1	-	-	-	-	0
Catheter Labs	0	2	-	-	-	2	2
ICU beds	33	48	-	-	-	48	15

* additional future provision in Yate, Central & East Bristol and Kingswood

The Southmead Community Hospital will provide services within the ambulatory, emergency and inpatient zones.

It is intended that there will be four entrances to the hospital to help patients and visitors access the areas they wish to get to within the zones.

At an early stage in the development of the preferred option a zonal diagram was produced for the Southmead site, showing the relationships and adjacencies within the new hospital, and this is illustrated in the diagram below:

The services within each zone will be as follows:

10.3.2.1 Inpatient Zone

The Inpatient Zone will have a dedicated entrance and concourse (adjacent to external patient drop-off with capacity for ambulance transfer movements). There will be 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. The design of the inpatient zone has been developed to be capable of being used in any permutation of 16 beds, thus adding to the flexibility of the design solution. This is a critical element in the Trust's plans to be able to respond to the next phases of the BHSP without having to substantially resize or reshape the building.

Inpatients will either be admitted as electives or emergencies. 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 Critical Care Unit. Emergency patients admitted via the Acute Admissions Unit (AAU) will have undergone initial investigation and stabilisation with identified treatment plans.

Inpatient beds will be provided in units of 32 beds, clustered into groups of 3 units to provide 96 bed clusters. 75% of the inpatient beds will be provided in single rooms, the remainder will be in 4 bedded bays, all with en-suite facilities.

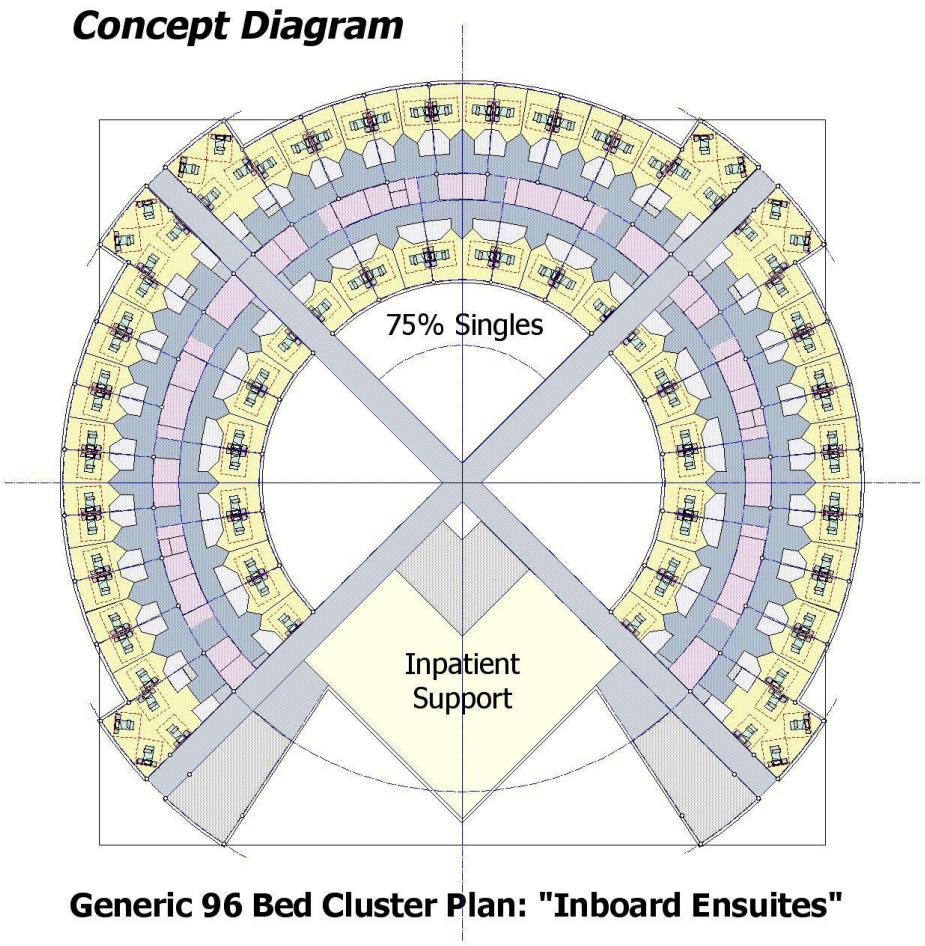
- The 32 Bed Nursing Unit – each unit will include:
  - Quiet sitting space
  - Assisted bathroom
  - Interview counselling room
  - Procedure room
  - Clean & dirty utilities
  - Staff base
- The 96 bed cluster accommodation will include –
  - Reception
  - Clean supplies store
  - Staff rest room
  - Office accommodation
  - Regeneration kitchen
  - Embedded teaching accommodation
  - Therapy room

There will be a cluster of positive/negative pressure rooms (ratio of 1 per 96 beds) for the management of patients who require isolation. The Coronary Care Unit will be a 16 bedded facility provided as part of a 32 bed unit, within one of the generic acute wards.

The Southmead Community Hospital will have beds in this zone and these are described in more detail in the community hospital section.

The Multi-Faith Centre will be located within the Inpatient Zone.

The following diagram illustrates the concept, but the Trust is still analysing the advantages and disadvantages of inboard or outboard en-suite facilities.



10.3.2.2 Emergency Care Zone

The services in this zone will adopt a 'see & treat' principle utilising a multi-disciplinary approach and integrated working. There will be a focus on treating patients and preventing admission into inpatient beds where appropriate.

The Emergency zone includes:

- A Minor Injury / Minor Illness Unit (incorporating GP out-of-hours service). This will operate on a see and treat principle, with patients being seen by the most appropriate practitioner, such as an Emergency Nurse Practitioner, GP or specialist physiotherapist and forms part of the NBSG Urgent Care Network. This service will assess and treat adults and children. This is further explored in the description of the Southmead Community Hospital, as the Minor Injury/Minor Illness Unit will be fully integrated with the community hospital facilities.
- An Emergency Assessment Unit that will provide a rapid and comprehensive assessment, diagnostic and early treatment service for new trauma, medical and surgical emergency adult patients. Children will only be admitted to the Emergency Assessment Unit to be stabilised prior to transfer to the Bristol Children's Hospital. The services incorporated in this Unit are:

  - **Resuscitation**
    Acutely unwell patients with an immediately life threatening condition will be stabilised before transfer to the appropriate area.

- **High Dependency Area**
  Patients who need to be assessed before following a clear agreed clinical pathway that includes access to a full range of interventions and diagnostic tests. Patients will be cared for on trolleys or beds
- **Low Dependency Area**
  Patients who are unlikely to require an inpatient stay, but who do require a further period of observation and clinical decision making, after initial assessment. Patients may be in a seated area, on trolleys or in beds
- **Short Stay Inpatient Assessment**
  Patients will be assessed and treated in this area if there is no immediate clear route into a specialist inpatient bed.

10.3.2.3 Ambulatory Zone

This zone will provide services for patients who attend for an outpatient appointment, an outpatient procedure or a medical day procedure. Patients attending this zone will also access services in the Core Clinical zone as required, e.g. Imaging, Endoscopy.

This zone will include:

- A Medical Day Case Unit
- Outpatients
- Therapy services including physiotherapy, occupational therapy, speech & language therapy, podiatry

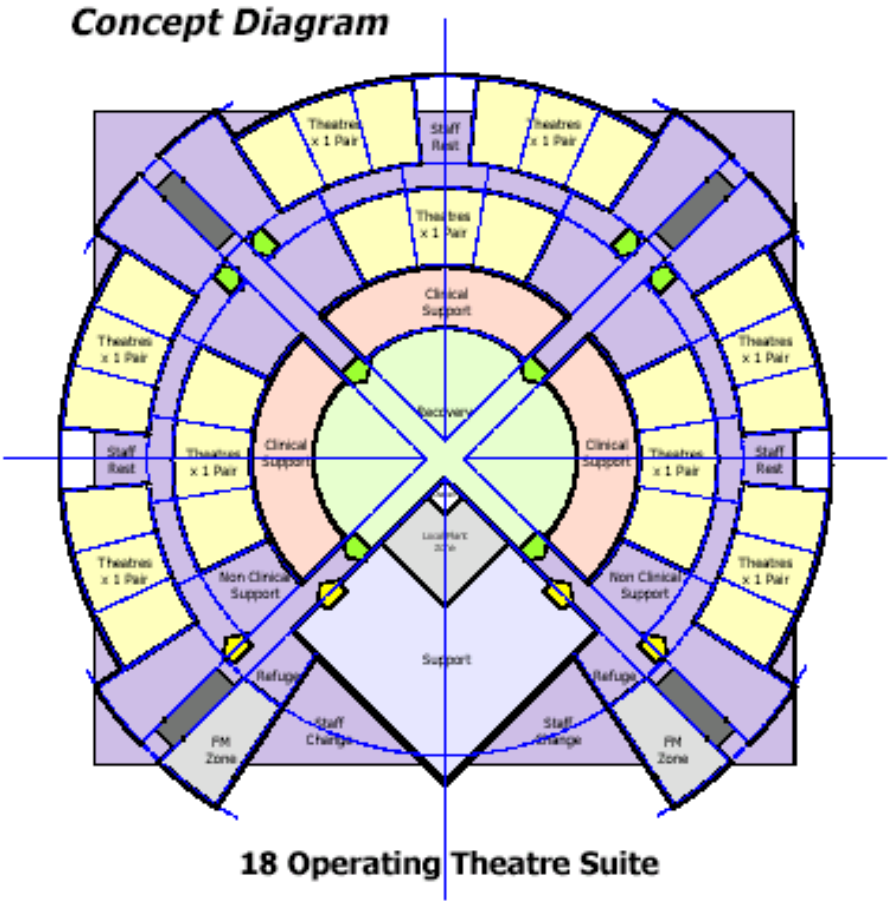
10.3.2.4 Core Clinical Zone

This will provide the essential high quality complex clinical support services to inpatients, outpatients and community patients. These services will be located to ensure that services are easily accessed from the Emergency, Inpatient and Ambulatory Zones as appropriate, to facilitate the best possible patient flows. Patients would not normally attend the zone direct, but through the other zones.

This zone will include:

- Imaging including x-ray, 4 MRI scanners, 4 CT scanners, ultrasound, cardiac catheterisation, mammography and fluoroscopy suites
- 18 Operating theatres
- Endoscopy unit (4 rooms)
- Diagnostic services including lung function, cardiac, urodynamics, vascular and neurological testing
- Pharmacy
- Medical Illustration
- Clinical Equipment services
- Therapy services including physiotherapy, occupational therapy, speech & language therapy, dietetics.

Detailed work has taken place on the development of Clinical Output Specifications for all departments, and the following diagram illustrates the adjacency concept which has been used to develop 1:500 stacking diagrams. The diagram shows how the theatres could be subdivided to facilitate flexibility of allocation, whilst enabling specialist use on a sessional or seasonal basis.



10.3.2.5 *Support Zone*

This zone will provide the essential non-clinical support services.

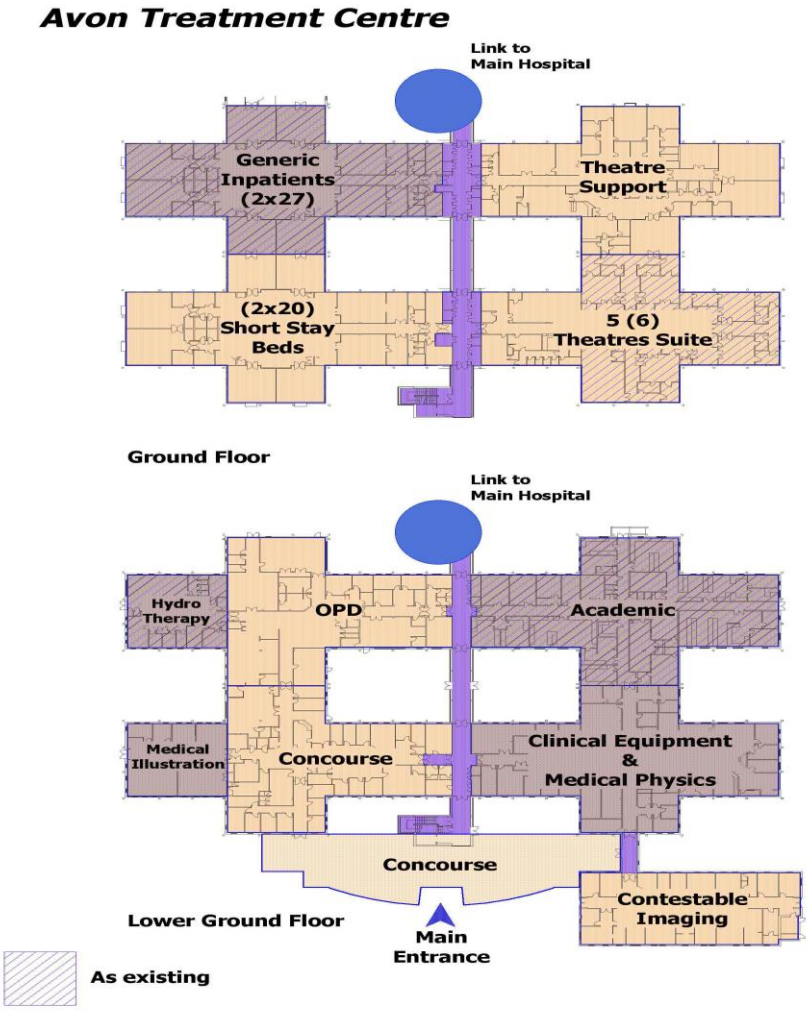
- Corporate administration
- Clinical administration
- Education and workforce development, including third party provision
- Research, including third party provision
- IM&T
- Hotel services including catering, portering, domestic services
- Medical Physics

10.3.2.6 *Treatment Centre*

The preferred option retains the Avon Orthopaedic Centre as a treatment centre, enabling the interface between the NHS Trust and contestable work to be managed. In additional the preferred option facilitates good clinical adjacencies between the treatment centre and the acute hospital, enabling rapid access to critical care and coronary care units.
The Treatment Centre will have 40 beds and provide facilities for short stay surgery ,together with a day surgery unit and diagnostic facilities. The Centre will therefore include:

- 5 Theatres supporting the Day Surgery Unit and short stay elective surgery
- Outpatients (1 x 6 room cluster)
- In-patient beds

A diagram of the Treatment centre in the refurbished AOC is shown below:



10.3.3 Southmead Community Hospital

Southmead Community Hospital will be the local hospital for patients in the North West part of Bristol and the Southern 'arc' of South Gloucestershire. Its core catchment population will be around 150,000.

It will support the proposed clinical model of care by acting as a 'hub' to other 'spoke' facilities across the defined catchment area. Links will also exist with other community facilities, outside its core catchment area, such as the proposed Central & East Community Health Centre.

A 'hub and spoke' model has been chosen as the most cost effective way of providing facilities, which support the significant changes in primary and secondary care services, outlined in earlier sections of this business case. The 'hub' will house services that require more specialised facilities or equipment and would be expensive to duplicate. Many of these services, such as diagnostic services and specialist outpatient clinics, will support services taking place in local primary care settings.

10.3.3.1 Design

The design of the community hospital takes into account the preferred zonal model being put forward in this outline business case. It will be located within the relevant zones but with a clear identity. It will occupy approximately 5,000 square metres. This approach ensures maximum flexibility to accommodate change of use and also to contract or expand and meet changing health needs or changes in national and local health policy. It also supports closer and vertical integration between primary and secondary care.

The facility will be locally identifiable as the 'local hospital within the hospital'. It is anticipated that most patients using or visiting the facility will live within two to three miles of the site. It will require specific and distinct signage throughout and will have its own entrance. The concept of the community will be reinforced and be at the 'heart' of the local area. The types of patients are likely to be less clinically dependent and the building will reflect this lower level of need.

10.3.3.2 Services and activity

The table below outlines the range of services to be provided at the Southmead Community Hospital and the associated activity from 2013 onwards. On each day approximately 300 patients from the local area will attend this facility for ambulatory care.

Table: 10.3.3.2

Service	Activity per annum
Triage Services and outpatient appointments provided by Practitioners with Special Interests	9,500
Consultant led outpatients	19,000
Urgent Care (Minor Injuries and Illness)	24,000
Diagnostic tests (plain film and ultrasound)	30,000
Therapies appointments (covering physiotherapy, occupational therapy, podiatry, dietetics and others)	30,000

Source: Bristol North Primary Care Trust

10.3.3.3 Community Beds

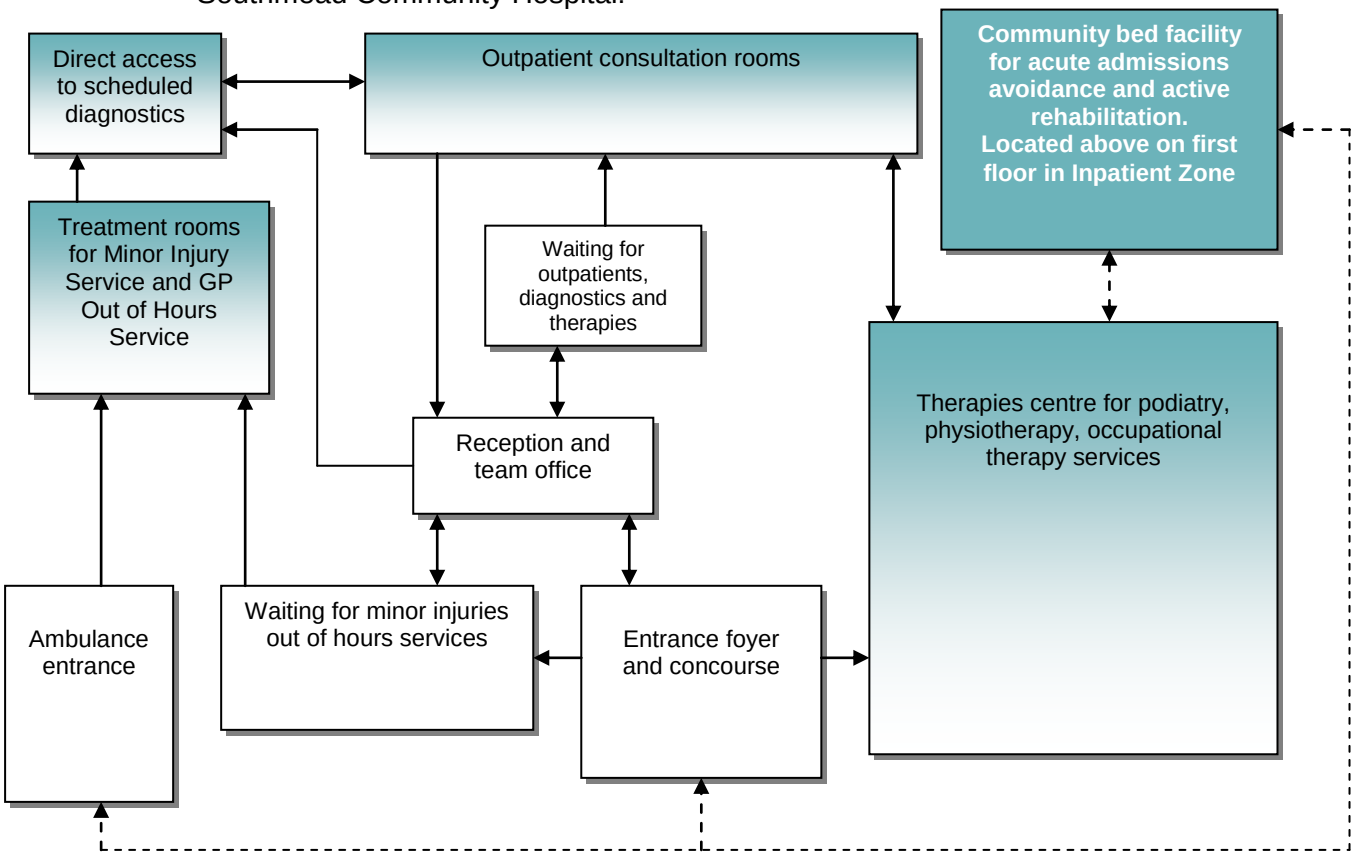
The beds within the Southmead Community Hospital will take direct admissions of patients who are medically unwell but do not need the services of an acute hospital or 24 hour medical attention, as well as the direct admission of patients requiring a period of rehabilitation. The community hospital bed will also take patients who are transferred from the Southmead Hospital requiring rehabilitation or end of life care. It is anticipated that around 1,150 episodes will take place. The following types of patients are envisaged

- Patients transferring from Southmead Hospital (acute beds) who meet the admission criteria of being able to benefit from active rehabilitation. Predominant specialties catered for will be stroke, orthopaedics and trauma, amputees following vascular surgery and care of the elderly where rehabilitation is complicated by multiple pathology.
- Patients who are experiencing an acute exacerbation of a long term condition, who do not require the services of an acute hospital and who are well known to GPs, intermediate care, advanced primary nursing, community matrons and district nurses.

- Patients unknown to the community hospital or community teams who do not require the services of an acute hospital, but cannot be cared for in their own home or safe haven bed.

10.3.3.4 Key Clinical Areas and Adjacencies.

The following diagram illustrates the main areas and adjacencies of the Southmead Community Hospital:



10.3.4 Frenchay Site

The Frenchay site will house the Frenchay Community Hospital, together with inpatient beds for older people with a mental illness, a satellite renal dialysis unit, and the Brain Injury Rehabilitation Unit and the Macmillan Unit in retained third party accommodation.

The Frenchay Community Hospital will provide services for approximately 150,000 people and will be complemented by community health centres in Yate and Kingswood and District and the community hospital in Thornbury. Across the Frenchay site the following services will be provided:

Community Hospital:

- Community inpatient beds
- Outpatient services
- Minor injuries unit
- Diagnostics – x-ray and ultrasound
- Rehabilitation and therapy services
- Local anaesthesia day cases

Other Services:

- Satellite renal dialysis
- Inpatient facilities for older people with a mental illness.
- The Macmillan Unit and the Bristol Brain Injury Rehabilitation Unit.

10.3.4.1 Inpatients

It is planned that Frenchay Community Hospital will have 84 beds. The utilisation of these beds will be 30 for stroke rehabilitation and will take patients after acute stroke care once they are medically stable (for all PCTs). The balance will be made up 'general rehabilitation' beds. The patients in these beds will typically be frail older people who require intensive therapeutic input to enable them to return home or be placed in a lower care setting (e.g. residential rather than nursing care). Typical specialties from which these patients step down will be general medicine (Care of the Elderly), particularly where patients have complex multi-factorial needs and trauma and orthopaedics. In all cases transfer would only take place once patients were medically stable. In addition there will be inpatient provision (28 beds) for older people with a mental illness, provided by the Avon and Wiltshire Partnership Trust (AWPT).

10.3.4.2 Outpatients

Twelve generic outpatient consulting rooms will be provided as part of the outpatient department in the acute hospital. These rooms will be used flexibly by consultants and their teams, plus practitioners with special interests including GPs and specialist nurses and therapists. Specialty based discussions have taken place between clinicians from primary and secondary care to agree the level and types of outpatient activity that can be transferred to community settings by 2013/14.

10.3.4.3 Minor Injuries Unit

The Minor Injuries Unit will form part of the urgent care network and is expected to cater for a throughput of 20,000 patients per year.

10.3.4.4 Diagnostics

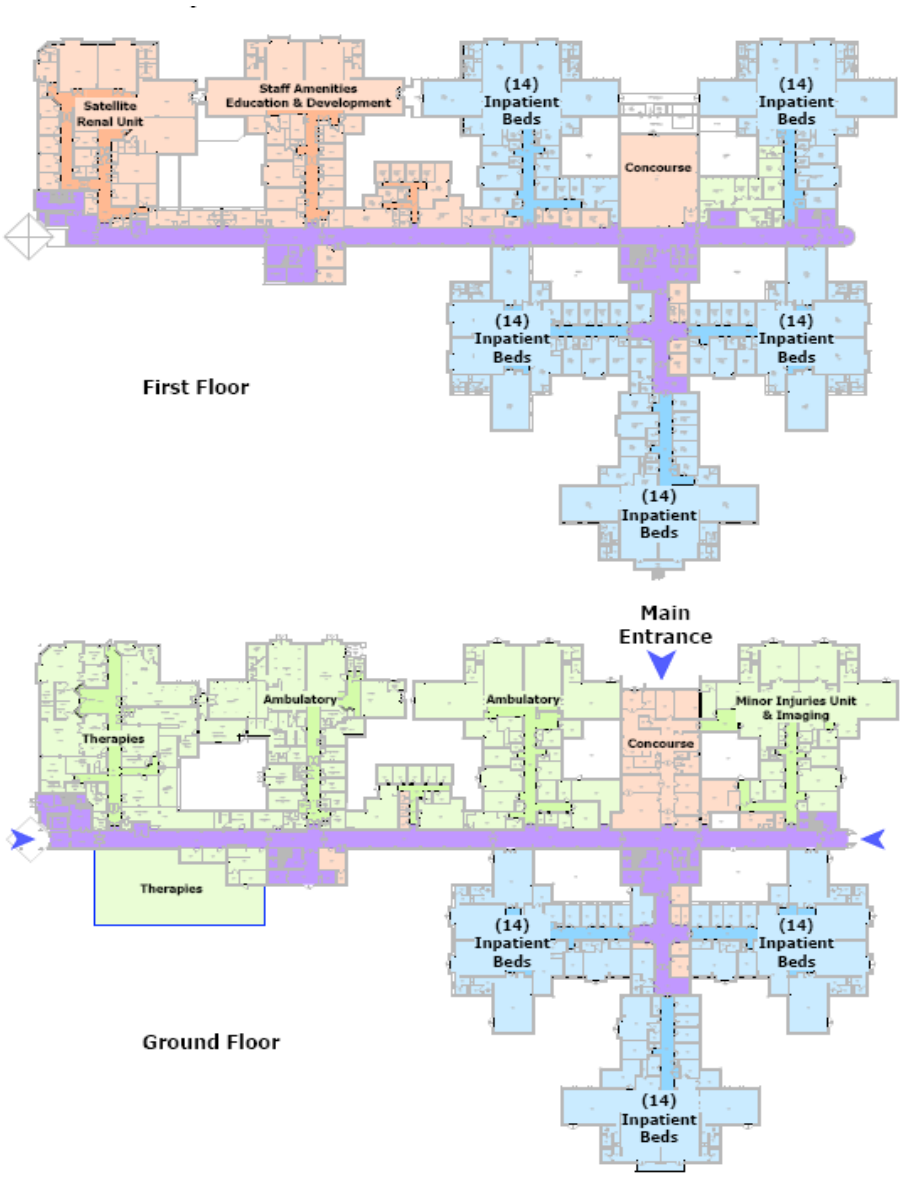
The Community Hospital will provide diagnostic tests including:

- 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 above, plus ultrasound to support abdominal and cardiac diagnosis.

10.3.4.5 Rehabilitation and Therapy Services

The therapy services will be managed as one integrated department and will share facilities including the outpatient consulting rooms. The therapy facilities will be easily accessible from the concourse area as many of the patients will have no contact with other clinical services and many will have limited mobility. Therapies will also be readily accessible to wards and outpatients.

The following diagram sets out how the proposed services can be accommodated within Frenchay Phase One:



10.4 SCHEDULE OF AREA, CLINICAL DEPARTMENTAL PLANS AND CLINICAL OUTPUT SPECIFICATIONS

Following the work on development of the clinical model, specifications have been produced by the development groups and these have been used to agree floor plans and a schedule of area for the Public Sector Comparator (the design that is used to test the viability of the development and to compare against actual design proposals from the bidders). The preferred option has been the subject of a number of clinical workshops, which have involved a diverse range of participants including clinicians, senior officers of the acute and PCT Trusts and the technical advisors. This has resulted in the development of a robust 1:500 departmental relationship drawings and vertical stacking diagrams and will underpin the development of exemplar 1:200 plans.

The specifications and schedule of areas have been used to produce departmental plans to illustrate how the Public Sector Comparator may work. The Schedule of Accommodation is given as Appendix 22.

A key feature of both the generation of the short listed options and the development of the preferred option was the production at an early stage of a Schedule of Area that is estimated to fit within the Trusts' affordability ceiling as set by the BHSP. This schedule is based upon recognised industry standards (including Hospital Building Notes and PFI current solutions) to reflect the requirements of the North Bristol and South Gloucestershire health economy.

The Clinical groups are now in the process of refining their Clinical Output Specifications, which will form the basis of the Trust requirements for the procurement process. These Specifications are tested against the Neutral Functional Content as they develop to ensure co-ordination and consistency between the various phases of this project.

10.5 REVIEW OF REFURBISHED AND RETAINED ESTATE

The Project Team have undertaken a detailed review of the refurbished and retained estate solutions inerrant in the preferred option with particular reference to clinical functionality. The significant buildings retained under this option are:

- The Avon Orthopaedic Centre; a brick-built nucleus building completed in 1993. This building is mostly laid out inside with partition walls allowing a degree of flexibility to change room size and layout. The plant rooms are on the roof with risers in the corridors. The building is narrow-plan with good natural light;
- Elgar House; a similar nucleus build completed in 1990 with similar flexible partition walls;
- Christopher Hancock building; an office block completed in 1993 with partition walls throughout;
- Frenchay Phase 1; a 1992 nucleus building in good structural condition, with ample natural light but with inflexible solid internal walls and poor insulation.

This represents a substantial proportion of existing estate and allows the Trust to demonstrate that they have complied with the BHSP principle to maximise the use of existing good estate.

In addition to this estate included in the main development proposal, there is a significant proportion of estate retained for other purposes outside the scope of this business case. This estate includes the Maternity and Gynaecology facilities on the Southmead site, the mental health facilities on the Southmead site and the Brain Injury Rehabilitation Unit on the Frenchay site.

10.6 DEVELOPMENT OF A PHASING PLAN AND ENABLING PROGRAMME

The preferred option relies upon a comprehensive enabling programme to clear the Southmead site ready for the PFI procurement, with a more limited preparation of the Frenchay site, as this scheme has the benefit of adopting a phase by phase approach to the refurbishment of the Phase 1 building.

The major elements of the enabling programme are as follows:

- Re-provision of the academic facilities in the Medical Teaching Unit, the Postgraduate Centre and the Lifeline Building into a permanent home on the Southmead site in conjunction with the academic facilities being re-provided from the Blackberry Hill site;
- Re-provision of the catering facilities into temporary facilities on the Southmead site;
- Creation of a double-width main route into the site by moving the Brunel Renal Unit on to the Frenchay site and incorporating the child adolescent offices into the AWPT development;
- Creation of temporary parking facilities on the Southmead site;
- A phased refurbishment of the Phase 1 building at Frenchay through a programme of ward upgrade, utilising the free capacity in Phase 1;
- Temporary relocation of daycase facilities on the Frenchay site

10.6.1 Approach to Construction

The construction strategy inherent in the preferred option is that of a single phase procurement that can be readily delivered under the Private Finance Initiative, whilst allowing the health economy to continue with their role of providing appropriate health care for the people of North Bristol and South Gloucestershire and facilitating for a programmed transition towards the new models of care that are required over the next thirty years.

The health economy are currently refining and simplifying the facilities Transition Plan which underpins the capital costs in order to maximise the above objectives. The plan is now being categorised into the following stages each underpinned by a robust stage plan.

- Enabling Works
- PFI Advance Works
- PFI Works

The aim of this strategy is to provide a cleared site at Financial Close in which the PFI Partner can take ownership and commence and complete construction, with minimum interface and co-ordination with the ongoing delivery of health services.

The site, which the PSC has identified as the most likely for the new development, is currently occupied by a variety services, predominantly support. The only clinical facilities in this area are the imaging extension and a c30 bed single storey ward block. The support facilities include catering, pharmacy, education and FM services, all of which can be readily reprovided.

Other key factors, which have influenced the construction strategy, are;

- The Delivery of the Pan Bristol Pathology scheme (As a separate Business Case and procurement route) adjacent to the proposed development site.
- The intent to co-locate all “contestable” services pre PFI within the current Avon Orthopaedic Centre.
- The intent to rationalise and centralise all academic and workforce training & development activity at an early stage (This issue is key to the closure of Blackberry Hill Hospital)

- The desire for both continuity of services and financial reasons to limit facility moves and achieve a single move to the final location in most cases.

The facilities' transition plan is being developed as an integral part of the Trusts' overall transition plan and is taking advantage of changes in quantum due to services being delivered in other Health Facilities, for example reduced capacity on a year by year basis in respect of overall bed and theatre requirements.

STAGE 1: Enabling

It is the health economy's intention to commence the enabling works as early as possible. The provision of these facilities are considered to be of benefit to the health economy regardless of the solution put forward by PFI bidders and in summary include:

- The establishment of a Residential / Academic Zone
- The establishment of a contestable services centre
- The provision of decentralised primary plant to serve those areas of the site which the PSC assumes will remain (AWPT, Obstetrics etc) together with a rationalisation of the site service infrastructure.
- Partial clearance of the Development Zone.

It is also the intention to complete the majority of this enabling work prior to the signing of a Preferred Bidder letter with a potential PFI partner.

STAGE 2: Advance PFI Works

The health economy has identified a number of other facilities which require rationalisation in order to totally clear the development site, these however would be considered project specific, i.e. the exact resolution would be dependent on the proposals being put forward by the bidder. In order to still achieve the strategic goal of providing a substantive single site for development to take place post Financial Close without the need for a multi phased solution, it is intended that the advanced works would start on site immediately after the signing of the Preferred Bidder Letter and be completed prior to Financial Close. The timing of this work is critical in order to avoid the risks of undertaking advanced works which are project specific without the certainty of what is to be provided. The works identified under this category are;

- Creation of a "link block" located between the Avon Orthopaedic Centre and the new development to accommodate Pharmacy, Imaging (part) Dining facilities
- The decommissioning and demolition of all buildings within the development zone

STAGE 3: PFI Main Scheme

It is anticipated that this stage will be undertaken in 3 steps;

- The construction of the new facilities on the "Development" site
- The commissioning and occupation of the new facilities
- The demolition of existing facilities and associated site works.

10.7 FLEXIBILITY & EXPANSION

Flexibility is the cornerstone of the Design Brief (Appendix 23) and this needs to be accommodated in a number of distinct and differing areas to meet the needs of the health economy over the next thirty years and beyond.

Flexibility has been achieved within this project at a number of levels. Firstly from the outset the overall design brief has been developed to reflect the agreed new models of care as determined by the health economy. This brief has been developed as a robust "bottom up" schedule with reference to both standard guidance and similar projects elsewhere.

The schedules have adopted the principles of standard rooms and multipliers throughout in order to ensure both consistency of approach "a bed is a bed and a clinic room is a clinic room" The spatial standards have as far as possible been developed around consistent multiplier 8.0m2 / 16.0m2 in order that future change in use can be readily achieved.

The clinical brief has been based upon the generic use of space; beds, clinics and administration etc. which will be allocated on a speciality basis to reflect need, this allocation will vary by session, week, season and year on year to reflect the changing needs of each department. It is not intended to develop fixed departmental boundaries but to allow these to flex as demand changes.

This approach is most apparent in the development of the bed towers, each designed around a tri-form of three ninety-six-bed clusters. It is anticipated that each ninety-six bed cluster will be managed as a single unit, but will accommodate three distinct nursing sections, each capable of operating independently of its neighbours. The high percentage of single rooms will also assist in accommodating patients of differing needs within each nursing section.

The PSC has been developed in a way which anticipates evolving services, with flexibility to allow individual departments to grow or shrink. The architectural healthcare planning and building deign supports change and evolution over time by incorporating "soft space", a regular structural and planning grid, flexible rooms, building services flexibility and a vertical transportation policy that supports change in use and workflows.

- Soft Space: By judicially locating non-critical departments that can easily move adjacent to critical departments with a high potential for growth, soft space has been provided to facilitate easy expansion, for example all clinical administration is currently co-located with the clinical departments.
- Regular Structural & Planning Grid: The use of a regular structural grid of 7.8m has proven over time to accommodate all forms of healthcare planning for example offices, consulting rooms can all be housed in a module of 3.9m and a multi bed space, operating theatre or diagnostic room in a 7.8m wide space. Subdividing a 7.8m structural grid into a regular planning grid creates the opportunity for virtually all hospital planning both now and in the future. These basic rules also help to co-ordinate the integration of services, which in turn helps in the development of a flexible hospital.
- Flexible Rooms: Although designing rooms "just to fit" their intended function gives the smallest new build space; greater overall economy has been achieved by designing rooms with a more generic size and shape. This approach makes rooms capable of a number of functions in the future, allowing for alternative uses without expensive adaptation.

- Building Services Flexibility: Inherent flexibility depends upon the nature of modular planning and support services, which facilitates convenient and cost effective alterations and changes in use without the need for wholesale structural or infrastructure change. Careful consideration has been given to the hierarchy of primary and secondary plant space and associated infrastructure again with flexibility in mid, for example the major air handling plant is located in a "vertical plant room" associated with each of the clinical towers allowing future change without having to strip back services to a remote plant room.

The scheme anticipates that the use of space can and will change over time (sessional or long term) but that in the main the overall quantum of accommodation will remain relatively static.

The biggest change anticipated in the short to medium term is in respect of contestable services (i.e. those services that may transfer to the Private Sector). Flexibility in this area has been achieved by co-locating all such services within the retained Avon Orthopaedic Building and not within the new facilities, as such this area can be readily expanded, contracted or demolished altogether.

Small to medium changes for example adding a new clinical department within the main clinical mass will be accommodated by the use of soft space, relocating administration to another part of the campus and using the space released to accommodate the new department.

The OBC has purposefully excluded obstetrics and gynaecology from the scope of the project as these services are the only areas on which consensus has not been achieved in respect of both the quantum and location of care within the overall health economy. It is anticipated that these services will remain in their current facilities until clarity is achieved.

The potential for macro change has been demonstrated within the Development Control Plan – 2020 which shows how a new women and children's service can be accommodated should that be the outcome of the Pan Bristol review of these services. This DCP also shows how an additional "tower" can be added should a major step change in health facilities be required.

10.8 MAIN FEATURES OF THE PUBLIC SECTOR COMPARATOR

A Design Brief has been produced; this sets out the key design criteria which have been defined for the development. It reflects the core requirements of creating a landmark hospital. The Design Brief is attached at Appendix 23.

10.8.1 Access to the site

There will be three opportunities for vehicles to enter the Southmead site and a single entrance for the Frenchay site. There will be additional opportunity for pedestrian access, subject to planning approvals. The Southmead vehicular site entrances are at Monks Park Road, Southmead Road and Dorian Way and the pedestrian access is at Kendon Drive. The main entrance for patients and the public will be on Monks Park Road and the Public Sector comparator (PSC) will give this significant presence and wider and easy access into the site. The Frenchay main entrance also has significant width and presence.

10.8.2 Movement around the Sites

The hospital road systems are designed to facilitate safe, convenient routes separating transportation groups as far as practical. Attention is given to the provision of clear and well defined routes for emergency vehicles such as ambulance, fire, police and transfer vehicles for helicopters and public transport.

Indicative road widths, turning circles, waiting bays and lay-bys have been shown to demonstrate that they are suitable for hospital and emergency traffic including service vehicles, and that they are convenient for staff and the public. Cycle routes and links with off-site cycle paths have been illustrated together with bicycle security and staff change facilities.

There is a network of paths to encourage pleasant walks around the sites.

The design allows for buses to access the Southmead site from more than one external entrance and is structured so that there is no need for any crossing of roads from the hospital to the bus stop. Covered ways from bus stops to both the new hospitals are included in the design.

10.8.3 Parking and Drop-off

Parking areas have been designed to be visually discrete but provide security for staff, patients and visitors. Visibility of vehicle parks from inside and outside the site has been minimised.

Parking for transport requirements of deliveries and waste disposal, ambulances, fire appliances and other specialist and emergency vehicles has been segregated from public and staff parking, and strategically located to support ease of loading and unloading to appropriate areas.

North Bristol NHS Trust has a clear Travel to Work Strategy and this is given at Appendix 3. This strategy identifies ways to encourage staff to use alternative ways of getting to work, apart from using their car.

The parking on the sites has been laid out in priority order as follows:

- Public car parks for emergency attenders and visitors;
- Dedicated parking for disabled people, the elderly and those with small children, located close to the clinical areas; particular emphasis should be placed on the needs of those with limited mobility and impaired vision;
- Parking for on-call, Hospital at Night and evening shift staff;
- 20 minute drop off and pick up points for patients;
- Patient and visitor parking;
- General staff parking.

Landscaping is shown on the drawings to aid the safe movement of people in and between the vehicle park and the hospitals during the day and at night, whilst softening the environment.

10.8.4 Movement and Flow within the Hospital

A key property of an intelligible layout is: 'what you can see is a reliable guide to where you want to go'.

The designs allow for privacy and dignity of patients and separation of patients and the general public.

The communication routes are designed to minimise travel time and distances for patients and visitors.

There are a minimal number of entrances into the two hospitals and these entrances should be very clearly identifiable as major access points.

Staircases and lifts occupy key positions within the hospitals, with provision of dedicated routes for certain services to facilitate the delivery of the Clinical Output Specifications.

10.8.5 Disabled People/Special Needs

The needs of disabled people have been taken into account doors and lifts are drawn to be of a width and length to allow wheelchair access.

Secure wheelchair parking has been accounted for in the design of the facilities and provision should be made for power recharge for disability vehicles.

10.8.6 Guidance and Space Standards

The internal and external space provision is generally equal to or greater than that prescribed in codes of practice, regulations and guidance related to hospital buildings, unless identified.

Appropriate space provision has been given to uninterrupted circulation, waiting and sub-waiting space for the movement of patients, pedestrians and the transportation of goods. Account has been taken of varied means of patient transportation, e.g. trolleys, beds with associated medical equipment and wheelchairs, and the impact on routes, e.g. lift sizes, corridor widths, door widths, lighting and surface protection.

Storage space for clinical storage, supplies and archive has been taken into account.

The design of the facilities will allow for departments to expand. A range of approaches has been adopted including the allocation of soft space such as office accommodation adjacent to departments of potential incremental growth such as theatres, radiology etc.

The width, height and planning of circulation routes achieves the minimum requirements set out in NHS Guidance with the exception of ceiling heights which are designed to be able to achieve a minimum 2.6 metres.

Space allowances around patients are sufficient to provide for privacy and dignity including space for visitors to sit with patients, space between chairs and seating in 'rest bays' along corridors to provide resting places along the visitor's route.

Ward layouts have:

- Allowed for 75% single rooms with the remaining 25% of beds provided in four bed bays. All single rooms and four-bed bays have en-suite facilities; the beds are also configured to enable them to be managed, and patients nursed, in flexible systems, as defined in the Clinical Output Specification. Bed centre to bed centre distancing can meet current and developing NHS Guidance. It allows adequate space for health care professionals, teaching requirements, visitors and multiple pieces of equipment to be centralised and located near to the patient within the bed area;
- Met the requirements of single sex wards, providing privacy and dignity to patients;
- Facilitated the separation and zoning of patients into clinical groups to respond to seasonal variations in activity, case mix, and practice, and to deal with infection control.

10.8.7 Vision

The new hospitals will have a strong civic presence.

The designs utilise the geography of the sites and make use of the opportunity for enjoyment of wide ranging views across the city and towards Wales for patients and staff.

The height of the buildings takes account of the anticipated maximum height likely to be allowable by the Local Planning Authorities.

The designs allow for an open and friendly environment, The following features have been incorporated:

- The ability for patients to see the staff working within the section.
- The ability for staff to observe patients easily from the staff base.
- Wards will function as separate units, not as thoroughfares for access.
- All non-clinical areas have been provided at the in-patient ward cluster level to limit incursion into the clinical areas; this may also be achieved by separate service entrances.
- Staff reception bases will be easily accessible to visitors upon entry to the ward or department.

Wards have been designed to maximise the efficiency of working arrangements, in accordance with the Clinical Output Specification, ensuring minimal travelling distance whilst treatment is carried out at the bedside, and in clinical treatment areas within the ward environment.

The wards have been laid out to maximise views, particularly from bedrooms. Sight lines have been optimised for all users to enable outward visibility with consideration being given to sill heights.

10.8.8 Staff Environment

Staff bases have been positioned in a convenient location in the in-patient units, to allow nursing staff to observe patients without obstruction of view as defined in Clinical Output Specifications.

Where possible and appropriate, staff areas have an exterior outlook.

10.8.9 Light

Natural light has been provided in public spaces and in occupied private and staff spaces within the building as far as is practical.

The plans achieve high levels of natural lighting in the primary horizontal and vertical circulation routes.

The community facility at Southmead has been developed with a view that the facility should be locally identifiable as a 'local hospital within the hospital'.

- Appendix 24 details how the plans achieve the NHS Consumerism Standards.
- Appendix 25 a and 25b provide the results of the NHS Environmental Assessment (NEAT) for a) Southmead and b) Frenchay.
- Appendix 26 provides the results of the Achieving Excellence in Design Evaluation (AEDET).

10.8.10 Telecommunications and IT Systems

Within the preferred option there will be a single, modern IT infrastructure, supporting both administration and clinical requirements. Applications will be provided outside of the PFI, however, these will need close integration with the hard infrastructure (e.g.: network) within scope. Clinical systems will include PACS, decision support and order communications. Administration systems will include patient administration, finance and human resources.

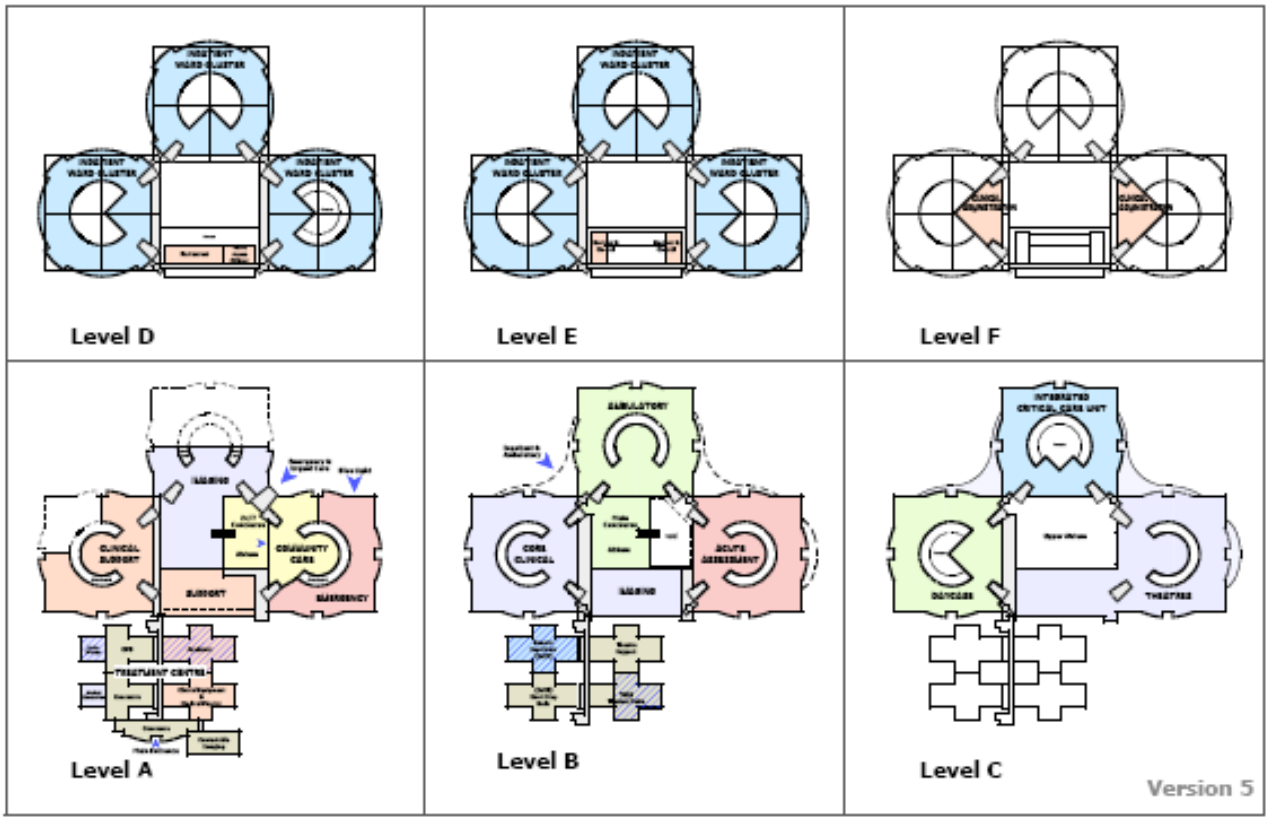
A single switchboard facility will provide services to a unified call centre or help desk facility managing more than IM&T, and potentially include facilities requests and external requests (e.g: for bookings and information), as well as switchboard.

A maximum of 100,000 paper records will be stored on site. Actual "film" movement will be minimal, with x-rays and other images being electronically delivered via the IT infrastructure, through PACS.

10.8.11 The Preferred Option – Public Sector Comparator

The following diagrams summarise the development of departmental interrelationships and how these have been achieved on the Southmead site.


Main Entrance
Academic Zone
Ambulatory Care Zone
Emergency Zone
Clinical Support Zone
Core Clinical
Treatment Centre
Energy Centre
Non Clinical Support Zone


Level D
Level E
Level F
Level A
Level B
Level C
Version 5

SECTION 11: FINANCIAL AFFORDABILITY

11.1 INTRODUCTION

This section will demonstrate the financial affordability of the preferred option put forward in this OBC, by :-

- Describing the significant progress already made by NBT with financial recovery since 2003/4, and the further plans to complete the move back into recurrent financial balance by the end of 2007/8.
- Outlining the income and associated expenditure implications of projected changes in activity in relation to growth and service transfers leading up to the first full year of operating the planned new facilities in 2013/14.
- Outlining the revenue expenditure and income associated with the provision of the proposed new facilities, including the consequent efficiency savings.
- Summarising the overall income and expenditure changes from 2006/7 to 2017/18, incorporating the combined impact of financial recovery, activity changes and the provision of the new facilities, and showing that they do maintain breakeven. Thereby demonstrate that the preferred option can be afforded within the context of all the other changes affecting NBT'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 NBT between 2006/7 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 affordable in capital terms as well as in income and expenditure terms.

11.2 ACHIEVING AND SUSTAINING FINANCIAL RECOVERY 2003/4 to 2012/13

11.2.1 Progress to date

NBT incurred a deficit of £44.6million in 2002/03, the largest in NHS history. Following a virtually complete change in Board membership, over the years 2003/4 to 2005/6 the Trust has achieved cumulative cost reductions of £47.83m and income and expenditure surpluses in each financial year. It has been held up by the National Audit Office as a case study of good practice in financial recovery. Over the same period, performance against access targets has also significantly improved. The Trust now has two stars and has been invited to apply for FT status. The improvement in management capability and the cultural changes that have been brought about in the course of this major turnaround in performance puts the Trust in an excellent position to deliver on the further performance improvements needed in the future, both those leading up to the planned new hospital development, and those needed in order to make the new hospital development affordable.

The Financial Recovery Plan (FRP) drawn up over the Summer of 2003 was the foundation on which this sustained recovery has been based. The cumulative savings achieved over 2003/04 to 2005/06 equate to around 13.1% of turnover, an average of 4.4% per annum. As a major element of these savings was needed to cover commissioner savings targets/tariff discounts and internal cost pressures, the reduction in the cumulative deficit is smaller at £25.7m, bringing the recurrent deficit down from £45.7m at March 2003 to £20.0m at March 2006. This is summarised below, and shown in more detail in Appendix 27:-

Table: 11.2.1

	0304 £m	0405 £m	0506 £m
Deficit brought forward	**45.70**	**36.66**	**33.39**
Deficit carried forward	**36.66**	**33.39**	**20.04**
In year savings			
- recurring	**-12.80**	**-14.80**	**-16.23**
- non-recurring	**-3.46**	**-7.02**	**-4.00**
- total	**-16.26**	**-21.82**	**-20.23**
Cumulative savings	**-16.26**	**-34.62**	**-47.83**

Note: cumulative savings exclude non-recurring savings in prior years

The savings that have been achieved are very significant, and the Trust is on track with its FRP.

11.2.2 Savings requirements and plans for 2006/07 and 2007/08

This section cover the assumptions and savings plans for the final two years of the Trust's FRP and then considers the likely level of savings needed for the years from 2008/9 to the full implementation of the preferred option in this OBC in 2013/14.

11.2.2.1 Assumptions

The key assumptions factored into the assessment of savings requirements for 2006/07 and 2007/08 are :-

- An underlying deficit at the end of 2005/6 of £20.04m. This is based on achieving a 2005/6 surplus of £1.6m after non-recurrent support of £15.15m (£10m from the NHS Bank and £5.15m from PCTs).
- NHS Bank support of £10m in 2005/06 falls to nil from 2006/7
- Current year PCT non-recurring funding of £5.15m is continued for one further year (2006/7) and then falls to nil from 2007/8. This is not yet agreed with PCTs, and is at risk.
- 1.7% funding reduction (£4.4m) back to PCTs each year from anticipated real terms tariff decreases (based on 2005/6)
- Provision for internal cost pressures of 1% of turnover per annum (£3.5m)
- Assumed transitional gain under PbR of £9m, 50% of which falls in 2006/7 (£4.5m), 75% in 2007/8 and 100% in 2008/9. This is an assumption that has been included in the FRP since the end of 2003, based on analysis of NBT comparative costs done at the time and has since been re-iterated by the PbR Stage 3 exercise which has been recently undertaken. We therefore believe that it remains a realistic assumption. It would require NBT income to be around 4% below the new national tariff. The NBT RCI was 105 in 2004/5, and if NHS Bank income is deducted and also various costs excluded from tariffs but not from reference costs, this indicates income at least 4% below average for like activity.

11.2.2.2 Savings requirements and savings plans

The resultant recurring savings requirements in 2006/7 and 2007/8 are £12.9m and £10.6m respectively (excluding savings needed to replace savings already made in previous years but only non-recurrently), which equate to an average of 3.3% of turnover per annum. Some of the measures to achieve these savings requirements are given as examples below. Many areas of work are continuations of previous activities with further cost reductions towards benchmarks. The larger schemes include:

- Internal Operational Service Improvement Programme (OSIP) linked to the ten high impact changes
- Bed reductions from improved length of stay and daycase rate performance
- Increased theatre utilisation and throughput
- Increased outpatient clinic utilisation and throughput
- Pathology rationalisation
- Pharmacy robotics and medicines management
- Patient care administration process improvements
- Nursing and other staff skill mix and staffing ratios
- Full year effect of Blackberry Hill site rationalisation
- Marginal savings against tariff funding for additional activity
- CNST premium discounts
- Facilities management services - laundry, catering e.t.c.
- Corporate departments staffing reductions

The schedule of the planned savings is included in Appendix 28.

11.2.3 2008/09 to 2012/13

There are two main requirements to make ongoing savings after the end of the recovery period :-

- There is an ongoing expectation that the annual uplift to the tariff will include a requirement for cash-releasing efficiency savings. NBT have assumed that this will equate to 1.7% of PCT income per annum, based on the actual requirement in 2005/06. This equates to £4.5m per annum.

- There is a level of ongoing internal cost pressures which is likely to be unavoidable for the Trust in future years and will need to be financed out of savings. This is projected to be around 1% of expenditure, equal to £3.5 million per annum, which totals £28m per annum by 2013/14. This £28m includes provision of £5.3m for the annual revenue impact of capital works to improve the quality of the estate and reduce backlog maintenance, as these would be unavoidable over the medium term if the developments proposed in this OBC were not able to proceed. If the developments in the OBC did proceed, then this £5.3m provision would be gradually built up over the period and reserved recurrently to contribute to the funding of the new facilities opening in 2013/14.

This gives a total of savings required per annum of £8m after pbr rebasing has been fully applied, equating to around 2.3% of turnover per annum, with a cumulative effect of £37m. Broad scheme headings to achieve these savings have been identified and most are related to the Trust moving its performance further towards high performance benchmark standards, continuing the progress made over the last three years.

A careful scrutiny has taken place of all these savings to ensure that they are not counted twice - in both the savings plans leading up to the opening of the new hospital, and in the new hospital savings.

Taking account of its experience and its performance in achieving very high levels of savings over the last three years, the Trust believes that it has the management capability to complete its financial recovery and maintain financial balance through to 2013 when the new hospital is planned to open.

11.3 CHANGES IN INCOME AND EXPENDITURE BETWEEN 2008/9 AND 2013/14 RESULTING FROM ACTIVITY CHANGES

This section considers the income and expenditure movements relating to changes in activity as a result of growth and service changes.

11.3.1 Income Changes relating to growth in activity

11.3.1.1. Context

As part of the BHSP process, the BNSSG Health Community undertook an assessment of the level of activity and commissioning cost growth that was affordable to PCTs. The assumptions made were as follows : -

- That the next spending review will reduce annual NHS funding growth from 2008/9 in line with the 6.7% recommended by the Wanless Report. Within this level of cash growth, it was assumed that BNSSG as a whole will receive real terms growth of 2% per annum.
- PCTs will use 0.5% growth per annum to fund demand management schemes and also enhance services in the community so that NBT (along with other acute trusts) can meet its performance plans in terms of upper decile length of stay and daycase rates.
- There will therefore be 1.5% per annum available for growth in acute care across BNSSG as a whole. This includes growth in specialised services provided by NBT (e.g. renal medicine, HIV and investment in Beta Interferon).
- It was concluded that this level of growth was affordable to commissioners.
- The Trust's FRP for the period 2005/06 to 2007/08 assumes that an element of the income from increased activity over and above the associated cost increases, is committed to financial recovery, as has been outlined above. It is therefore assumed that only the increase in income from activity (net of associated costs) from 2008/09 to 2013/14 (6 years) will be available to support the cost of the redevelopment proposals.

11.3.1.2 Activity growth

Growth in activity was described in detail in Section 4.2

A calculation of income associated with the level of planned growth (ie. after the effect of demand management schemes) has been undertaken using the 2005/06 national tariff. This has been scaled back by 5% to reflect expectations that the 2006/7 tariffs will be up to 5% lower in real terms than 2005/6 tariffs.

The impact by PCTs within BNSSG (and for other PCTs in total) is shown in the table below and covers the period 2008/09 to 2013/14.

Table 11.3.1.2.i Costed growth in activity by PCT

	Bristol North PCT £m	South Glos PCT £m	North Somerset PCT £m	Bristol S&W PCT £m	BNSSG PCTs Total £m	Other PCTs £m	TOTAL £m
2004/05 baseline	83.4	89.9	30.1	22.4	225.8	35.8	261.6
Cost of growth in general 2008/9 to 2013/14	6.0	7.5	2.7	1.7	17.9	8.2	26.1
% growth 2008/09 to 2013/14	7.8%	8.9%	10.9%	10.1%	8.8%	32.8%	11.4%
% growth per annum	1.3%	1.4%	1.7%	1.6%	1.4%	4.8%	1.8%

The BNNSG PCT income growth from 2008/09 to 2013/14 is based on an overall 1.4% per annum increase excluding renal and HIV services and beta interferon prescribing, and corresponds with PCTs commissioning plans as agreed in the BHSP affordability exercise.

Growth in renal, HIV services and beta interferon prescribing is higher due to the specialist nature of these services. Total growth for 2008/9 to 2013/14 is therefore as follows:

Table: 11.3.1.2.ii

	BNSSG PCTs £'m	Other PCTs £'m	Total PCTs £'m
General growth	17.9	8.2	26.1
Renal / HIV / Beta Interferon	8.1	1.8	9.9
	26.0	10.0	36.0

In addition, a reduction in income has been built into the calculations to take account of a projected lower level of income associated with excess bed-days and rehabilitation bed-days. These bed-days will reduce as a result of performance improvements around length of stay. The benefit of these reductions to PCTs is estimated at £2.5m.

11.3.2 Income Changes relating to Service transfers

Service transfers have been described in detail in Section 4.3 and cover the following:

- BHSP service transfers (Section 4.2.5.1)
- Transfers to community settings (Section 4.2.5.2)
- Transfers to the Independent Sector (Section 4.2.5.3)
- Acute flow transfers (Section 4.2.5.4)

The effect of all of these transfers on future income has been calculated using the national tariff (discounted by 5%) and the losses and gains of income are as follows:-

Table 11.3.2: Income changes relating to service transfers

	£ m
BHSP service transfers:	
- Cardiology	5.5
- ENT/OMF	1.9
- Breast Surgery	(0.2)
- General Paediatrics	(5.2)
- Specialist paediatrics	(5.0)
- CAMHS and community	(3.5)
- Outpatient paediatric rheumatology & paediatric cleft lip & palate sacs	(1.9)
SUB-TOTAL	**(8.4)**
Transfers to Community Setting:	
- Outpatients	(5.1)
- Open Access	(1.8)
- Minor Injuries Units	(1.5)
- Inpatients	0.9
SUB- TOTAL	(7.5)
Transfers to Independent Sector:	(7.7)
SUB-TOTAL	(7.7)
Acute flow transfers:	
- to Weston Trust	(4.4)
- to UBHT	(5.1)
- to other providers	(0.3
- specialist catchment	5.3
SUB-TOTAL	**(4.5)**
TOTAL	**(28.1)**

It should be noted that the transfers to the independent sector have a financial value of £7.7million rather then the £10million referred to in Section 4.3.3. This is because £2.3million of elective activity has already transferred out of the Trust and so is already out of the Trust baseline for the 2005/06 financial year. There is an expectation that this activity, together with the new activity valued at £7.7million, will transfer to the Independent Sector in the future thus totalling £10 million.

11.3.3 Expenditure Changes associated with changes in activity

A careful assessment has been made of the impact on expenditure associated with the changes in activity described above, both as regards activity changes due to growth and due to transfers. The impact on expenditure assessed excludes premises and capital charges, as these costs are covered in the additional revenue implications of the new facilities in Section 11.4.2 below, as these have been sized to accommodate the projected activity.

11.3.4 Summary

A summary of the impact on both income and expenditure relating to growth and service changes is contained in the table below:-

Table 11.3.4: Summary of income and expenditure movements relating to projected changes in activity from 2008/9 to 2013/14

	Income	Expenditure	Net

	Changes £m	Changes £m	change £m
BNSSG PCT growth 2008/9 to 2013/14	26.0	21.2	4.8
Other PCT growth 2008/9 to 2013/14	10	8.2	1.8
Reduced excess bed-days	(2.5)	(1.9)	(0.6)
Service transfers	(28.1)	(23.6)	(4.5)
TOTAL	5.4	3.9	1.5

This remaining £1.5m is available to contribute to meeting the revenue impact of the new hospital development. This £1.5m would be built up gradually over the period and reserved recurrently to contribute to the funding of the new facilities opening in 2013/14.

11.4 EXPENDITURE AND INCOME ASSOCIATED WITH PROVISION OF THE PROPOSED NEW FACILITIES

11.4.1 Capital cost of new facilities

The proposed Southmead South development is planned to be completed by 2013/14 at a capital cost of £374m (MIPS 445). The value for money analysis in section 9 has shown that the construction element (excluding enabling costs) is best met through a PFI deal. An element of the equipment requirement is also planned to be included in the PFI deal. The pre-PFI enabling works are planned to be met from public capital funding sources as this work needs to be completed before the PFI contractor starts construction, and the remainder of the equipment requirements are also planned to be met from public capital. The resulting split of the total capital cost between the PFI financed and the publicly financed elements is shown in Table 11.4.1 below, indicating a requirement for PFI financing of £336m, and public capital funding of £38m.

Table 11.4.1 – Capital cost of the proposed Southmead South scheme

	PFI Financed	Public Financing	Total
	£m	£m	£m
New build	294	0	294
Refurbishment	18	0	18
Enabling	5	26	31
Equipment	19	11	30
Capitalised project costs	0	1	1
TOTAL excluding VAT on PFI	**336**	**38**	**374**

The capital costs are equivalent to those contained in the economic appraisal (section 9.2.2), except that they include irrecoverable VAT (which is excluded from the economic appraisal).

The capital cost of the Frenchay Community Hospital is projected at £46m (MIPS 445). The procurement route for the Frenchay scheme will be assessed separately at a later stage when formal approval to proceed with that scheme is sought, but for the purposes of the affordability analysis in this OBC, it is assumed to be publicly funded.

How the elements of the scheme to be funded from public capital, in conjunction with the Trust's ongoing capital programme, can be afforded within the future capital funding regime is detailed in section 11.6.

11.4.2 Recurring revenue implications of capital investment – summary affordability statement

Table 11.4.2 below shows the revenue cost of the planned capital investment, and the means by which that revenue cost will be funded. The table includes the revenue cost of both the Southmead and the Frenchay developments.

Table 11.4.2 – Summary recurring revenue affordability statement

APPLICATION OF FUNDING		
Revenue cost impact of capital investment:		
	£m	£m
Southmead:		
Unitary payment (including estates maintenance)	36.4	
Less capitalisation of unitary payment	-3.6	
Capital charges on publicly funded capital expenditure	1.8	
Other premises costs	7.2	
Sub total Southmead development		41.8
Frenchay:		
Capital charges on publicly financed capital expenditure	3.4	
Premises costs	1.1	
Sub total Frenchay		4.5
TOTAL APPLICATION OF FUNDING		46.3
SOURCES OF FUNDING		
Release of existing capital charges from demolition/revaluation of existing buildings		12.3
Release of existing premises costs from demolition of existing buildings		11.7
Additional third party income		0.7
Savings generated over 2008/09 to 2012/13		5.3
Operating cost savings only achievable from redevelopment from 2013/14		14.8
Net surplus resulting from net activity increases generated over 2008/9 to 2013/14		1.5
TOTAL SOURCES OF FUNDING		46.3

Table 11.4.2 shows that the projected gross revenue consequence of the planned capital investment is £46.3m per annum, and that this gross cost is covered by £46.3m of efficiency savings and other cost reductions or income. Therefore, the revenue consequences of the proposed capital investment proposed are affordable.

Key points to note regarding individual elements of this affordability statement are as follows:-

- The shadow unitary charge has been calculated in conjunction with the Trust's financial advisors using a financial model that has been used to support private sector bids submitted by PFI consortia in the health sector, and by benchmarking the level of unitary charge for a range of recent and current schemes. The financial model includes a 0.5% interest rate buffer. The capital costs assumed to arrive at the unitary payment calculated are equal to the PSC capital costs. For the purposes of this OBC, the Trust has assumed that the VAT charged on the Unitary Charge will be fully recoverable. Prior to the submission of the Full Business Case, the Trust intends to obtain a clearance letter from HM Customs and Excise confirming that the VAT on the unitary charge is fully recoverable.
- At the end of the planned 30 year concessionary period the property transfers to North Bristol NHS Trust for zero consideration. The estimated fair value of the hospital at the end of the concessionary period has been advised by the District Valuer as £191m (expressed in current prices). On recognition of this "residual interest" at the end of the concession, the Trust is required to capitalise an element of the annual unitary payment . Based on the estimated residual value outlined above, the sum to be capitalised in the first year is £3,595k.
- Capital charges consist of depreciation over 30 years for buildings and 10 years for equipment, and cost of capital/interest at 4.7%
- Premises costs include rates, utilities, cleaning and building maintenance. The running costs for the new build element of each option are based on benchmark costs per square metre for utilities, cleaning and building maintenance. Rates are based on external advice.
- The £5.3m saving shown as being generated over 2008/9 to 2012/13 is included in the Trust's overall financial plan for the period leading up to 2012/13. This is because this saving would be necessary even if the proposed redevelopment scheme did not proceed, as capital investment with this revenue cost would still be needed to improve the existing facilities (as described previously in section 11.2.3
- The operating cost savings only achievable from redevelopment (i.e. from the opening of the new facilities) are described further in section 11.4.4 below).
- The £1.5m net surplus arising from net activity increases generated over 2008/9 to 2013/14 are as already described in section 11.3 above.
- The affordability statement does not assume ongoing uplifts in the PbR tariff for revenue consequences of capital, although the tariff was uplifted in 2005/6 by 0.4% for this. If there were uplifts in the tariff for revenue consequences of capital investment, then an element of the tariff uplift would be reserved to contribute additionally to the revenue cost of the developments proposed in this OBC. This would obviously have a positive impact on their affordability.
- The affordability statement shows only recurring costs. There are additional non-recurring costs associated with the proposed development, which are covered in section 11.5 below.

11.4.3 PFI affordability ratios

Further support for the affordability of the proposed capital investment comes from analysis of two key indicators used by the Private Finance Unit and by PFI consortia to assess the affordability of major PFI schemes. The two indicators are shown in Table 11.4.3 below:-

Table 11.4.3: Indicators for the assessment of major PFI schemes affordability

	Proposed PFI Scheme
PFI Investment as a % of projected Trust turnover on completion	90%
PFI Unitary Payment as a % of projected Trust turnover on completion	8.75%

On both of these ratios, the proposed Southmead PFI scheme is towards the lower end of the range of existing PFI schemes nationally, providing a further demonstration of the affordability of the scheme.

The calculation of these ratios is shown in Appendix 29.

11.4.4 Efficiency savings resulting from the preferred option

11.4.4.1 *Savings from bed reductions*

Savings identified from bed reductions are £6.0 million. This relates to the reduction in costs of the bed base due to performance improvements between 2005/06 and 2013/14, after allowing for bed increases funded from income for extra activity, bed reductions required under the Financial Recovery Plan and to cover loss of excess beddays income, and transfers to and from other providers. The overall reduction in beds is from 1,320 funded beds currently to 1039 in 2013/14. The calculations are shown in Appendix 30. .

The performance plans underpinning these bed reductions broadly reflect performance approaching upper decile of current NHS performance, and are described in detail in section 4.5.

11.4.4.2 Non-bed related savings

Other savings identified (not related to bed reductions) total £8.8 million, broken down as follows:

- £1.7m nursing savings arising from lower nursing costs due to the move to larger wards, whereas current ward sizes are lower than this, ranging from 13 to 28 bedded wards. Staffing ratios as determined by the Audit Commission benchmarks are generally lower for larger wards. The Audit Commission whole time equivalent (WTE) per bed benchmark applied to the current configuration of wards is 1.18 wte per bed. The proposed configuration of beds (3 x 32 bedded units) will be based on 1.06 wte per bed. Based on 672 beds being provided in the new ward sizes , this equates to a saving of £1.7m.

- £7.1m from synergy savings associated with the move to a single site, i.e. reduction in duplication of services across the two sites. A full breakdown of the savings is shown in Appendix 31. Broad areas are: -

	£m
Hotel services	1.5
Management costs	0.8
Administration	0.9
Radiology and pharmacy	0.7
Out of hours emergency theatres	0.3
Junior doctors rotas	0.4
Travel and transport	0.2
Outpatient nursing	0.1
Non-pay harmonisation	0.6
Other Directorate savings	1.6

	7.1
	===

11.4.4.3 Total savings

The total savings projected to be achieved directly as a consequence of implementing the preferred option therefore total £14.8m.

11.4.5 Transitional costs and funding

Transitional costs are one-off costs associated with delivering the project which do not have permanent value. They include costs associated with project management and procurement, impairment, commissioning, double running, and the phasing in of savings and release of existing capital charges.

Appendix 32 sets out the costs and funding assumptions in detail but the key assumptions are:

- NHS Bank funding for project costs (including financial and technical advisors) up to financial close is assumed at 2% of capital costs financed through PFI up to £300m, and 1% thereafter. The total funding for PFI project costs at 2005/6 prices that is available on this basis is £6.8m, and this has been phased over the most likely project cost spend profile.

- NHS Bank funding is assumed to meet all impairment costs except for the Trust contribution, which is capped at £5m.

  Impairment costs will arise, because as a result of this development a number of existing buildings on both the Frenchay and Southmead sites will be demolished. Also an element of the land at Frenchay will become surplus to requirements. In accordance with capital accounting policies the net book value of these assets will need to be written down to their alternative use value with a resulting impairment. Under the current arrangements, central government funding through the NHS bank is available to cover most of the additional cost of impairments and accelerated depreciation. It is assumed that this will continue to be the case. The current arrangements are as follows:

Table: 11.4.5 Impairment Funding

Value of Impairment and Accelerated Depreciation	Local Percentage	NHS Bank Funded
Schemes up to the value of £2m	100%	0%
Schemes valued between £2m and £5m	20%	80%
Schemes above £5m	10% (capped at £5m)	90%

The estimated impairment of the existing land and buildings is £101m, resulting in an impairment cost borne by the Trust of £5m under the current funding arrangements, with £96m being met by the NHS Bank.

- NHS Bank transitional support starts in 2012/13 at 2.5% of outturn capital cost including VAT (£569.6m), and tapers off by 0.5% each year to 0.5% by 2016/17. The total funding is 7.5% of the capital cost, which equates to £35.4m. £16.4m of the transitional funding requirement is profiled over 2012/13 and 2013/14 to cover a variety of one-off revenue costs such as double-running and commissioning costs, land sale costs, potential redundancy costs and the Trust contribution to impairment costs. The balance of £19m is attributable to the gradual phasing in of the full efficiency savings and the full release of existing capital charges. The NHS Bank will be requested to provide transitional support over the profile shown in Appendix 32.
- It is assumed that project costs on non-PFI capital spending will be capitalised, and they will be managed to 1% of the capital cost, which equates to £0.9m. This is included in the capital cost estimates for affordability purposes.

11.5. REVENUE SUMMARY

11.5.1 Overall income and expenditure each year

Table 11.5.2i below summarises all the income and expenditure changes described in this section of the OBC. These include :-

- completion of the financial recovery plan to achieve recurrent balance
- changes in activity relating to growth and service transfers
- additional recurring and non-recurring costs relating to the redevelopment, and the offsetting savings

The table shows the income and expenditure summary as at the end of each of four time periods :-

- Base year – the starting point in 2005/06
- End of financial recovery – 2007/8
- End of the interim period between the end of financial recovery but prior to the opening of the new facilities – 2012/13.
- After the new hospital development – this is taken to be 2017/18 when the recurring position will have stabilised (i.e. all necessary recurring savings found and all transitional costs ended).

Table 11.5.2i : Income and Expenditure Summary

	Base Year 2005/06	First Stage Recovery Period to 2007/08	Recovery to New Hospital to 2012/13	New Hospital Development to 2017/18
INCOME	**£'m**	**£'m**	**£'m**	**£'m**
Baseline income	346.5	346.5	346.5	346.5
Deficit Support	17.7	0.0	0.0	0.0
PBR net transitional funding	0.0	6.9	9.3	9.3
Tariff uplift for revenue consequences of capital (to 8/	0.0	2.3	2.3	2.3
Tariff reduction	0.0	-8.7	-31.1	-53.6
IVF development	0.0	4.3	4.3	4.3
Impairment income (NHS Bank)	0.0	0.0	38.0	0.0
Transitional funding (NHS Bank)	1.0	2.1	6.8	0.0
Growth	0.0	7.5	38.2	43.5
Excess bedday reduction	0.0	-0.7	-1.1	-2.5
Third party rental income	0.0	0.0	0.0	0.7
Service Transfers	0.0	-2.4	-20.3	-28.0
TOTAL INCOME	**365.2**	**357.7**	**392.9**	**322.5**
EXPENDITURE				
Baseline	360.9	360.9	360.9	360.9
Cost pressures	0.0	7.0	24.5	42.0
Recovery savings	0.0	-23.5	-60.7	-100.7
Growth & tariff uplift contribution to recovery to 8/9	0.0	3.3	3.3	3.3
IVF development	0.0	4.3	4.3	4.3
Impairment costs	1.6	0.0	38.0	0.0
Transitional costs	1.0	2.1	6.8	0.0
Growth	0.0	6.4	31.4	35.8
Excess bedday reduction	0.0	-0.5	-0.8	-1.9
Transfers	0.0	-3.0	-17.7	-23.6
Savings related to new hospital development	0.0	0.0	0.0	-14.8
New acute & community hospitals	0.0	0.7	2.2	17.1
TOTAL EXPENDITURE	**363.6**	**357.8**	**392.3**	**322.5**
SURPLUS/(DEFICIT)	**1.6**	**-0.0**	**0.6**	**0.0**

The detail of Table 11.5.2i by year is shown in Appendix 33 and summarised by year in the table below.

Table 11.5.2.ii: I&E surplus/(deficit) by year

	In year surplus/(deficit) £m	Cumulative surplus/(deficit) £m
2005/06	1.60	1.60
2006/07	(1.60)	0.0
2007/08	(0.04)	(0.04)
2008/09	(1.3)	(1.34)
2009/10	0.89	(0.45)
2010/11	(0.05)	(0.50)
2011/12	0.21	(0.29)
2012/13	0.55	0.26
2013/14	0.0	0.26
2014/15	0.0	0.26
2015/16	0.0	0.26
2016/17	0.0	0.26
2017/18	0.0	0.26

These tables show that cumulatively, over the period, there will be a small surplus of £0.26 million. This demonstrates that the preferred option can be afforded within the context of all the other changes affecting the Trust's income and expenditure, and not just in isolation.

11.6 CAPITAL AFFORDABILITY

A forward capital plan has been drawn up showing how the £38m public funding required for the proposed Southmead development (as outlined in section 11.4.1), together with all other NBT and BHSP strategic capital developments and also replacement and lifecycle requirements, can be funded under the new NHS capital regime. This capital plan also includes provision for the £46m Frenchay scheme cost, although formal approval for that investment to proceed is not being sought in this business case.

The Department of Health plans to introduce the capital funding regime currently in operation for Foundation Trusts to all Trusts. This will mean that Trusts retain their depreciation, and any capital expenditure above this level will need to be financed by external borrowing or capital receipts. Every Trust will be set an upper limit on its borrowing based on an assessment of risk and the size of its asset base. This upper limit is known as the Prudential Borrowing Limit (PBL). The new scheme is assumed to be introduced from 2007/8, and thus 2006/7 will be the final year of the old system.

It is assumed that the following costs will be met from SHA strategic capital funds in 2006/7 and 2007/8 :-

- The element of the public funding requirement for the Southmead redevelopment that is projected to fall in 2006/7 (£9.3m)
- Other new strategic schemes (subject to AGW approval) falling in 2006/7. The key such scheme is the Bristol Pathology Rationalisation Scheme.
- Costs of capital developments already approved that fall in either 2006/7 or 2007/8 (Cardiac and Blackberry Hill schemes).

It is assumed that all subsequent costs will need to be funded under the new capital regime through a combination of depreciation, loans and capital receipts.

As detailed guidance on the operation of PBLs has not yet been issued, or the actual PBL's for individual Trusts set, a number of assumptions have been made :-

- The Trust will attract a risk rating of a minimum of 2, giving a PBL of £30.8m based on current net assets. We understand that the majority of Foundation Trusts have risk ratings at level 2 or 3. The Trust's improving financial health could well allow a higher rating at a some stage.

- A temporary increase in the PBL will be required for the period 2011/12 to 2012/13 to support the Frenchay element of the scheme until the land is sold.
- Any capital surpluses in-year will be used in the first instance to reduce the overall level of borrowing.
- PBL is available without delay in 2007/08 to ensure that vital enabling works and other strategic schemes planned to be started in 2006/7 are not then delayed. These works are a key element of the PFI deal and the BHSP, and are critical for ensuring construction of the main scheme under PFI starts as planned in 2008.

Appendix 34 is a summary of the capital programme including the costs of the preferred option, together with the associated funding sources, and shows that it is affordable given the assumptions above at a risk rating level of 2.

11.7 SENSITIVITY ANALYSIS

11.7.1 Overall conclusions from sensitivity analysis

Sensitivity analysis has been undertaken to assess the key variables affecting affordability, both to ensure that the overall affordability assessment is realistic in the key assumptions it makes, and to inform contingency plans. The impact of each of these variables on the affordability position is shown in Appendix 35.

Appendix 35 does not provide any assessment of the probability of the potential variances from plan occurring. In order to better further gauge their impact taking account of probability, a range of realistic favourable and unfavourable scenarios have been extracted from Appendix 35, the probability of each assessed, and the individual and overall probability weighted variances calculated. This analysis is shown in Table 11.7.1 below.

Table 11.7.1: Probability assessment of risks to affordability

Base scenario and realistic alternative scenarios	Probability	Realistic unfavourable scenario Variance from plan £m p.a	Base plan in the OBC Variance from plan £m p.a	Realistic favourable scenario Variance from plan £m p.a	Probability weighted variance Variance from plan £m p.a
Clinical performance					
Base plan is performance close to upper decile	50%		0		0.0
10% better performance than planned	20%			5.5	1.1
10% worse performance than planned	30%	-5.5			-1.7
Savings not related to clinical performance					
Base plan is £8.8m per annum	50%		0		0.0
Savings 20% higher	40%			1.8	0.7
Savings 20% lower	10%	-1.8			-0.2
BNSSG activity growth					
Base plan is 1.42% annual growth	50%		0		0.0
Growth at 1.0% per annum	35%	-1.4			-0.5
Growth at 2.0% per annum	15%			1.9	0.3
Tariff uplift for revenue consequences of capital					
Base plan is zero uplift from 2008/9	50%		0		0.0
Tariff uplift of 0.3% per annum to 2013/14	50%			5.1	2.6
Capital cost					
Base plan is £420m (including Frenchay)	40%		0		0.0
Cost 10% higher at £462m	40%	-4.3			-1.7
Cost 10% lower at £378m	20%			4.3	0.9
Unitary Payment (excluding equipment)					
Base plan is 9.9% of construction cost	40%		0		0.0
9.4% of construction cost	40%			1.6	0.6
10.4% of construction cost	20%	-1.6			-0.3
		-14.6	0	20.2	1.8

Table 11.7.1 indicates that if all the realistic unfavourable scenarios were to occur together with no favourable scenarios, then the revenue affordability position would be £14.6m per annum in deficit. Similarly if all the favourable scenarios were to occur together, with no unfavourable scenarios, the affordability position would be £20.2m per annum in surplus. Neither of these scenarios are at all realistic. Taking account of the assessed probabilities of the alternative scenarios, the probability weighted position is a £1.8m per annum surplus. This is very small, and the realistic conclusion is that the risks of unfavourable and favourable variances from the base affordability plan in the OBC are evenly balanced.

11.7.2 Areas where unfavourable variances are more likely than favourable variances – affordability risk areas

The most significant risks to affordability are described below. The actions to mitigate the risk are also outlined, and are described in more detail in section 13.

i) Clinical performance on length of stay not being improved to the level planned.

If clinical performance was below the planned level, then either the Trust would be unable to accommodate the planned activity in the new facilities and would lose income, or it would have to face the costs of extending the new hospital and staffing the increased beds if this could be done within tariff. The cost of this is shown in Graph 1 in Appendix 28, which indicates a £1.4m per annum additional cost for every 2.5% increase in length of stay over the plan. While this risk is perhaps the most significant risk within the scheme as a whole, it should be noted that the performance plans on which the affordability assessment is predicated are no more challenging than those within other major redevelopment schemes.

The action to mitigate this risk is a complete focus on planning and managing the detailed changes across the whole health community that will result in the performance improvements, and closely monitoring progress. Given the major potential for improvements in productivity, it is also possible that the clinical performance levels exceed the planned levels.

ii) Activity and income falling below the projected level

The primary element of this risk in materiality terms relates to growth in activity from BNSSG PCTs. The base assumption as set out earlier in the OBC is an annual growth of 1.0% in admissions which together with growth in other forms of care results in an annual resource growth of 1.42% per annum (excluding some specialist services). This is an approximate halving of the historical rate of admission growth of around 2% per annum. This reduced general activity increase will cost the BNSSG PCTs an additional £17.9m over 2008/9 to 2013/14, and this is incorporated into their financial projections.

An increased risk to the affordability for PCTs of these projections is likely to arise from revised national implementation plans for Payment by Results. Under the latest plans, PCTs will only receive non-recurring support for tariff increases in moving to the national tariff. While the final tariffs have not yet been set, PCTs project the impact of the move to tariff will be an additional £15m payment to NBT and an additional £23m across all BNSSG providers (including the £15m to NBT). A potential scenario in response to this as indicated by PCTs is that they may have to further reduce growth in demand by the full £15m, which would equate to a very large reduction in overall growth from 1.5% per annum to around 0.24% per annum. An alternative and arguably more realistic scenario is that activity is reduced broadly across all providers equivalent to the £23m PbR cost. This would be a reduction in growth to around 1%, reducing the £17.9m income currently assumed by around £6m rather than £15m.

These risks of affordable activity growth being lower than planned should be balanced against the historical trend of admission growth which has been roughly double this rate of annual admission growth.

Other key factors affecting activity projections include transfers to IS and acute flow transfers to other trusts. The latest available information on the level of these transfers suggests that they may be overstated, as follows :-

- The Trust has assumed a transfer to IS worth around £10m per annum. An assessment by AGW of the value of contestable work suitable for transfer to an ISTC has identified £15m for NBT in total. This may increase by extending the criteria for contestability further, but even factoring in an increase, after allowing for patient choice the likely transfer to an ISTC would appear to be potentially less than £10m.

- The initial work on acute flow transfers to UBHT and Weston indicates a transfer equivalent to £9.5m. However, further analysis and feedback from GP practices suggests that this may be over-stated, with the actual level of transfer being lower.

Taking account of all these factors, there is a risk that activity may be under-estimated as well as a risk that it is over-estimated. A further factor that needs to be taken into account is the likelihood of ongoing growth after 2013/14. If this was running at 1% to 2% per annum then this would close the activity and income shortfall relatively soon after 2013/14.

While clearly resources would be wasted if the new hospital is over-sized, if it is under-sized and subsequently needs to be extended, then under a PFI contract this subsequent extension may be particularly expensive. A balance has to be reached taking account of the risks and consequences of under-sizing as well as over-sizing.

To give some scale to this, the scheme currently provides 97 beds to take account of growth. In the worst case if BNSSG growth was scaled back to 0.25% from 1.5% the requirement would fall by around 60 beds. If BNSSG growth was scaled back to 1.0% the requirement would fall by around 25 beds. Every 1% of growth beyond 2013/14 not matched by further reductions in length of stay would increase bed requirements by 10 beds each year.

The financial impact of activity being lower than projected, based on the Trust's financial model, would be a net loss of around 25% of the lost income if the size and scope of the scheme was not changed. Given the scale of the income change it would also be realistic to assume overheads could be reduced by 10% of the income loss. Based on a worst case of £15m income shortfall against projections, this would equate to around £2.8m in 2013/14. For the various reasons above, this is likely to be very much a worst case, and any actual shortfall much lower. In the probability analysis in Table 11.7.1, a reduction in the rate of growth to 1.0% per annum is taken as a realistic unfavourable scenario.

The potential means of mitigating the risk of a deficit from lower activity and income levels include the following :-

- To bring services currently outside the scope of the scheme into the new hospital. The buildings used by those services would then be either re-used by some other income- generating service or be demolished. The most likely services that this could be applied to are gynaecology, and if obstetric services were reconfigured across Bristol, potentially a low-risk birth centre.
- Secure other work to partially or wholly replace the lost acute flows. This could include a further gain of specialist work from a wider catchment area (e.g. Swindon neurosurgery transferring from Oxford).
- To develop a section of the new hospital only as shell and core, so reducing initial cost somewhat, but providing a lower cost means of bringing the capacity that may not be needed initially into use later.
- To fully develop but then mothball a section of the new hospital that is not required initially in 2013/14, but bring it gradually into use as activity rises in the years after 2013/14.
- To scale back the size of the new hospital during the procurement process.

These options will be further considered alongside further analysis of projected activity as the Trust proceeds with consideration of the OBC and into the procurement phase. The Trust is prepared to ask bidders to price a mandatory variant of 50 beds lower than the planned level in order to facilitate this process. This modelling shows that the Trust does have viable options for managing lower growth at the worst case end of the range, although it believes that the worst case scenario is very unlikely.

iii) Capital costs increasing above the level projected

If capital costs increased above the £420m projection, the revenue impact of the increase is around 10% of the additional capital cost. A 10% increase would result in an additional revenue cost of £4.3m per annum. Optimism bias has been included in the capital costs to reflect the potential for under-estimation of capital cost. In addition, the Trusts have included a 10% contingency sum and has benchmarked the proposed capital cost per square metre against the last 5 schemes to reach Financial Close. The Trust has also recruited an experienced Project team with a clear Project structure.

11.7.3 Areas where favourable variances are more likely than unfavourable variances – affordability opportunity areas

The areas where there is potential for favourable variances against base assumptions, offsetting the risk of unfavourable variances in the areas outlined in 11.7.2, are as follows:

i) Potential for the PFI unitary payment to fall below the level assumed

The modelled unitary payment relating to construction equates to 9.91% of the construction cost at a 2005/6 price base. A benchmark for other schemes is around 9% to 9.5%. While the NBT scheme may have a higher percentage to the length of construction there may still be potential to reduce below 9.91%. A unitary payment at 9.4% of construction cost would result in a saving of £1.6m per annum.

ii) Potential for non bed-related savings greater than £8.8m

Considering the scale of the opportunities for synergy and other savings on the move to a single site, in the context of the Trust being able to reduce costs annually by around £16m through its recovery plan in the very poor existing facilities, £8.8m may be an under-estimate of the non bed-related savings achievable.

iv) Tariff growth for revenue consequences of capital

No tariff growth for revenue consequences of capital is assumed. If the 0.4% tariff uplift in 2005/6 was continued to 2013/14 and 0.3% was reserved against the developments proposed in this OBC, then the resulting additional income improving the affordability position would be £5.1m per annum.

SECTION 12: WORKFORCE

12.1 INTRODUCTION

This section seeks to identify the key workforce implications of the new clinical model across North Bristol and South Gloucestershire, and Appendix 36 sets out the workforce strategy and highlights the key challenges for workforce development. The detailed projections of the changing workforce profile and numbers as NBSG moves to 2012/13 are set out in 12.4. This shows how workforce requirements change during this period, due to the implementation of the NBT financial recovery programme, the centralisation of services the transfer of services to community locations, and latterly due to the synergies achieved as a result of the reconfiguration of services consequent upon the realisation of the plans set out in this OBC.

A Workforce Assessment Report was also completed by the BHSP and, provided to the Avon, Gloucestershire and Wiltshire Strategic Health Authority in October 2005. This provides an assessment of workforce issues across Bristol, North Somerset and South Gloucestershire.

Section 3 of the OBC, on the clinical model, described a new system of service provision in North Bristol and South Gloucestershire. This new system will require a change in focus from the workforce, and a reshaping of traditional departments into new teams .In addition to this, the future NHS workforce must be fit for purpose and competent to deliver the future services and service standards set out in the NHS plan and the national service frameworks.

The plans for healthcare across North Bristol and South Gloucestershire are driven by the need to provide healthcare for the population in both new environments and through a new relationship between primary and secondary care. These plans require changes in the configuration of skills required in both primary and secondary care settings, and increased interchange of roles between both settings. The analysis of health needs and care-pathways will underpin the development of a workforce to deliver this care. The provision of more specialised healthcare in peoples' homes or integrated with primary care, challenges traditional staff roles and will provide opportunities for the development of new staff roles.

12.2 THE CURRENT WORKFORCE

12.2.1 Key facts about the current workforce in BNSSG

Across BNSSG nearly 20,000 staff are employed in the NHS, 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. 45% of the total workforce is aged over 45 years, and 14% are aged over 55 years. Approximately 58% of all locally employed NHS staff were part-time and 80% of all staff are female.

The overall turnover rate in NBT was 12.9% for the 12 months to November 2005, and improvement over the 14.4% for the 12 months to November 2004.

The following Table 12.2.1 provides a breakdown of the staffing groups across BNSSG.

Table: 12.2.1

Staff Groups	Head Count	Wte
HCHS Qualified Nurses, Midwives, Health Visitors	6149	5009.28
HCAs / Nursing Assistants & Support Staff	4364	3326.72
Assistant Practitioner – AHP / ST&Ts	17	15.56
Qualified AHPs	1056	859.12
Qualified ST&Ts	843	690.39
Healthcare Scientists	687	621.87
Senior Managers	227	218.79
General Managers	304	283.16
Administration & Estates	4010	3174.29
Medical & Dental	1850	1636.42
NMW, HV learners	29	28.20
AHPs, ST&T, HCSc.Student/Trainee	66	66.51
TOTAL	**19602**	**15930.31**

12.2.2 Workforce in North Bristol and South Gloucestershire

NBT currently employs nearly 8,400 staff across a wide range of disciplines. This equates to 7150 whole time equivalents. Within Bristol North and South Gloucestershire PCT, approximately 1,400 staff provide services to the local community.

The following tables 12.2.2i, 12.2.2ii and 12.2.2iii set out the profile of the workforce employed by North Bristol Trust, Bristol North PCT and South Gloucestershire PCT.

Table 12.2.2i

North Bristol NHS Trust – Staff Groups	
Staff Groups	**Wte**
Administration and Estates	1472
Clinical HCAs & other support	961
Non-clinical support	775
Medical and Dental	721
Qualified nursing, midwifery and health visiting	2018
Qualified Allied Health Professions	349
Qualified scientific, therapeutic and technical staff	392
Health care scientists	462
TOTAL	**7150**

NOTE: Budgeted staff numbers WTE, 31 March 2006

Table 12.2.2ii

Bristol North PCT - Staff Groups	SIP (30 Sept 05)		
Staff Groups	Head Count	Wte	
Qualified AHPs	42	35.13	5.3%
Qualified ST&Ts	12	9.36	1.5%
Qualified Nurse and Midwifery	285	222.23	35.1%
Healthcare Assistants & Support Staff	113	75.18	13.9%
Senior Managers	23	22.56	2.8%
Managers	31	29.13	3.8%
Admin & Clerical	269	222.39	33.2%
Ancillary	14	4.11	1.7%
Medical & Dental	21	17.45	2.6%
TOTAL	**811**	**637.57**	**100%**

NOTE: Includes all hosted organisations excluding General Payments Staff & PreReg Nurses

Table 12.2.2.iii

South Glos PCT - Staff Groups	SIP (30 Sept 05)		
Staff Groups	Head Count	Wte	
Qualified AHPs	80	60.76	13.8%
Qualified ST&Ts	11	9.12	1.9%
Qualified Nurse and Midwifery	225	176.84	38.8%
Healthcare Assistants & Support Staff	79	53.98	13.6%
Senior Managers	42	39.94	7.2%
Managers	8	6.91	1.4%
Admin & Clerical	116	81.99	20.0%
Ancillary	17	8.97	2.9%
Medical & Dental	2	1.6	0.3%
TOTAL	**580**	**440.11**	**100%**

NOTE: Includes all hosted organisations excluding General Payments Staff & PreReg Nurses

(Source: Avon IM&T Consortium)

Ethnic Origins November 2005

The following shows the composition of the North Bristol Trust's workforce in ethnic terms:

Table 12.2.2.iv

	Trust	Bristol	South Gloucestershire
White (old code)	5.3		
White British	78.6	88.0	95.8
White Irish	0.7	1.1	0.6
White Other	2.0	2.7	1.2
Mixed White – Black African	0.2	0.2	0.1
Mixed White – Asian	0.2	0.4	0.2
Mixed White – Black Caribbean	0.5	1.0	0.3
Any other Mixed background	0.4	0.4	0.2
Black or Black British African	1.1	0.6	0.1
Black or Black british Caribbean	1.2	1.5	0.2
Any other Black background	0.2	0.3	0
Asian or Asian British Indian	2.9	1.2	0.4
Asian or Asian British Pakistani	0.4	1.1	0.1
Asian or Asian British Bangladeshi	0.1	0.3	0.1
Any other Asian background	1.2	0.3	0.1
Chinese	0.4	0.6	0.3
Any Other Ethnic Group	1.0	0.3	0.2
All other groups (old codes)	0.4	0	0
Not Known / not declared	3.2	0	0

12.3 THE NHS CAREER FRAMEWORK

The health community 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
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.

Examples of initiatives within the North Bristol and South Gloucestershire health community to implement new roles and skill mix changes are:

- North Bristol Trust appointed 8 trainee Assistant Practitioners in April 2005 to work in stroke rehabilitation, MAU and preoperative assessment areas amongst others. They are undertaking the Foundation Degree Programme at UWE. 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 is planned for January 2006.
- South Gloucestershire PCT has 5 Emergency Care Practitioner's currently training and these will be working within primary care to support out-of-hours providers and unscheduled care and also 999 calls with South Gloucestershire.
- Bristol North PCT employs the REACT teams which consist of an intermediate care nurse, an acute nurse, a senior occupational therapist and senior physiotherapist. The team in Frenchay prevented 86 admissions in the first three months of operation by developing links with community services. They undertook a series of modules through UWE to develop advanced skills in assessment, diagnostic reasoning, applied pharmacology and case management and a second team is about to be established in Southmead.
- Bristol North PCT, Bristol South & West PCT and South Gloucestershire PCT have been part of a national pilot to implement the role of Advanced Primary Care Nurse. The results of the pilot with 10 nurses show that repeat admissions and length of stay were reduced in a frail, vulnerable at risk group. There was also more informed decision making and care planning and improved communications between different agencies with a single care coordinator.

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.

12.4 WORKFORCE MODERNISATION

The health community has considered in detail the requirement for workforce modernisation and the Bristol, North Somerset and South Gloucestershire Integrated Service Improvement Plan identifies the key workforce modernisation issues as follows:

Workforce Modernisation
Agenda for Change: this will deliver significant benefits for patients delivering on strategic

Workforce Modernisation
reconfiguration plans and 10 High Impact changes through KSF appraisals delivering clear objectives and development plans for individuals, encouraging team working, using flexible working patterns around service need, empowering employees to determine their own methods of working, increasing average knowledge and skills levels and helping the NHS to recruit and retain staff.
NVQ Collaborative: investment to enable skill mix by accessing NVQ level 2 and 3 and the development of NVQ level 3 will promote skill mix within primary care teams across BNSSG.
New roles and role design to support additional capacity in day case utilisation, for example anaesthetic practitioner pilot, physician assistant and exploration of the role of surgical care practitioner within secondary care. Development of Extended Scope Practitioners and Practitioners with Special Interests
Advanced practitioners taking on new roles, e.g. APNs working with high risk patients across Bristol and South Gloucestershire, Advanced Practitioners working in COPD, Pulmonary Rehabilitation, Dermatology, Diabetes and Walk In Centres. Emergency Care Practitioner development. BNSSG have recruited 13 ECPs to respond to 999 calls as well as working with the out of hours service in order to provide responsive unscheduled care
National Management Development Initiative: is funded from the leadership centre to support collaborative learning and learning sets.
Assistant practitioner role development in radiology departments across BNSSG is improving capacity by allowing more straightforward diagnostics to be undertaken by an assistant and releasing more senior radiographers to undertake more complex diagnostics. Skill mix at assistant practitioner level within scientific and technical staff groups which support pathology and other diagnostic services is also underway. 33 currently being developed in 2005/6 including in stroke rehabilitation, MAU and preoperative assessment and in REACT team.
GP contract: rewards primary care professionals for providing quality services, brings career opportunities for practices staff and incentives for the development of services traditionally delivered in secondary care being delivered more locally.
Consultant contract: will improve ability to manage consultant's time in ways that best meet local service needs and priorities giving greater clarity of objectives for consultants and more effective systems for engaging consultants in joint action to improve NHS performance and modernise patient care.
Improving Working Lives: 'Model' employer practice through implementation of IWL principles will lead to improved recruitment and retention and reduction of vacancy and turnover rates, significant representation in the workforce of the communities that they serve, flexible working, safe environments in which to work and culture of lifelong learning. **E Recruitment:** improve recruitment processes through development of e recruitment

12.5 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/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.

12.5.1 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 more narrow specialist field;
- Empowerment of patients including access to information and education services, will require the provision of expert patient programmes, coupled with training for staff on how to work with this new approach. Some of these expert patients may then become new members of staff with a range of educational and developmental responsibilities.

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: 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.

The following case study provides an example of the workforce planning within Bristol North PCT for a Community Healthcare Centre.

Case Study
Bristol North PCT - Planning the Central & East Bristol Community Healthcare Centre Workforce
Workload and Staff Numbers Estimation
The volume of clinical work to be transferred to the unit was analysed and the workload of the different posts estimated to allow calculation of the staff numbers required to (for example) run MIU clinics. In the main traditional staff roles were used at this stage to allow comparison of a wider range of data and professional experience. Baseline assumptions arising here included for example: the amount of time for clinical and clerical interventions with each patient. These results were benchmarked against established and new models both locally and further afield to ensure that estimates were workable and all elements of the patients pathway were accounted for. A staffing calculation model was devised to allow changes in clinical workload or in baseline assumptions to be input and compared. This work indicated that The current (Aug 2005) agreed levels of clinical activity to be delivered in and from the Central and East Bristol Community Health Care Centre could be delivered by between around 95 whole time equivalent staff.
Staff Roles
Analysis of the kind of work to be carried out at the unit revealed 3 key types of role

1. Staff holding clinics, carrying out minor operations or providing consultation. Of the 95 staff some 38 would carry out complex treatment or care procedures and hold outpatient and MIU clinics. These staff would need to exercise high levels of clinical discretion within a clinical-governance framework and would almost all require prior professional training and registration.
2. Care staff carrying out procedures in support of those clinics requiring some discretion and judgement but guided by protocol. Around 20 people will be employed in the unit in such posts many of these will be advancing from entry-level posts through development and training.
3. Staff working in fairly routinised roles where action was defined closely by procedure or protocol. In this unit around 37 staff would work in posts such as Care Assistants, Technicians, junior administration and security staff; these are entry-level posts not requiring prior training.

These key posts and the other posts in the unit (e.g. senior technical and managerial roles) were plotted against the NHS career framework matrix. Patterns of clinical care and the skills and competencies of the staff who might provide that care were analysed. The table on the next page indicates how many whole time clinical staff might be required at each level of the NHS Career framework.

Bristol North Trust, North Bristol PCT and South Gloucestershire PCT have undertaken considerable work on identifying the out-patient activity which will shift from the acute sites to the community sites. This has included the identification of the work which will continue to be undertaken by consultant teams, together with that which will be undertaken by either general practitioners with a special interest or practitioners with a special interest. The following table shows the implications of the shift of outpatient work for key specialties:

Table: 12.5.1: Implication of shift of outpatient work for key specialties

Specialty	Weekly Clinics Acute	Weekly Clinics Community	Consultant Community WTE	GPSI Community WTE	PWSI Community WTE
Urology	7	15	0.77	0.10	0.25
Trauma	33.4	17	1.70	0.30	0.73
Orthopaedics	14.2	14	0.79	0.10	0.26
ENT	23.9	19	1.04	0.14	0.34
Oral Surgery	17	5	0.58	0.08	0.19
Plastic Surgery	25	13	0.71	0.09	0.23
Pain Management	35.3	11	1.23	0.16	0.40
Respiratory	17.3	6	0.67	0.09	0.22
Diabetes	9.7	6	0.65	0.11	0.27
Gastroenterology	13.3	9	0.77	0.10	0.25
Cardiology	24.2	16	1.75	0.23	0.57
Care of Elderly	10.4	9	1.17	0.11	0.25
Neurology	22.2	4	0.49	0.06	0.16
Obstetrics	10.6	7	0.74	012	0.30
Gynaecology	11.5	10	0.72	0.09	0.23

Bristol North PCT and South Gloucestershire PCT will work to ensure that the educational and training priorities needed to support the development of the primary care workforce are included in the overall work plan of the Bristol North Academy. Strong links have been made with the Local Workforce Development Group, which is offering support for future educational and development programmes. Detailed collaboration with the University of the West of England and the University of Bristol will be required to ensure that education opportunities are included within the education portfolio and within the education contract commissioned by the Workforce Development Directorate of the Strategic Health Authority.

The implementation of the Expert Patient Programme will mean that patients are educated to take responsibility for and carry out more of their own healthcare. 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. An example of this direction of development can be found in the model of 'Community Facilitator / Health Trainer'. These roles have the potential to improve access to services and the information people receive about their health and health care services. Securing funding and training members from the community to become community facilitators / Health Trainers, particularly members from BME and deprived communities, will be explored. The Bristol North PCT will build on the learning from similar initiatives such as the South Asian Diabetes Community Facilitator project.

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.

12.5.2 Integrated Re-Ablement Services for North Bristol and South Gloucestershire

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;

Implementation will require:

- Continued implementation of the single assessment process will require on-going training for staff.
- Development of case management skills for both community and hospital based staff
- Sustained and enhanced development of community staff, to enable the consolidation and expansion of local enhanced services, provided by Advanced Primary Nurses(Community Matrons). This approach builds on the 'Evercare' experience, and will continue to require support from the University of the West of England in the provision of education programmes to underpin the role development.

12.5.3 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.

12.5.4 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;
- 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.

12.5.5 An Emergency/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. The North Bristol Trust 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.

12.5.6 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,

12.5.7 A Flexible Inpatient Service

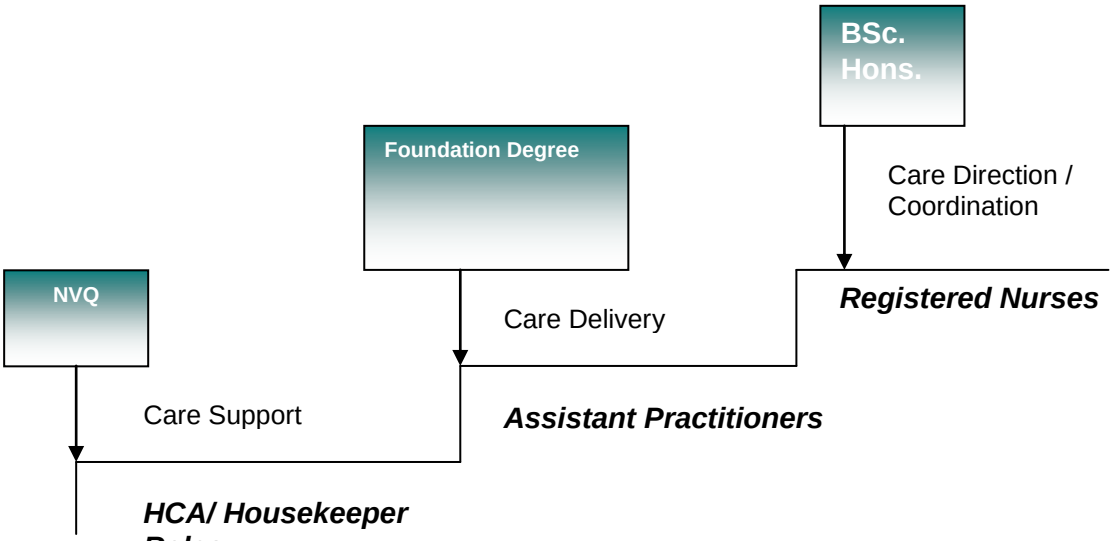
This service will integrate a number of existing teams and wards into a single flexible service, and this flexibility will provide a major challenge. Other issues will include:

- 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 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 cluster 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 be significantly reduced, 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 liasing with community-based case managers to ensure service continuity for the patients. An entirely new cohort of practitioner roles will be responsible for the delivery of care, working under the direction of the registered nurse, but separately regulated. It is anticipated that this will be the largest component of the team, support by more traditional health care assistant roles, which will include housekeeping functions.

The following chart illustrates the main roles within the in-patient area.



At the pr ion 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 Grade A HCAs will be 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, and this is covered in Section 11 on Affordability.

12.5.8 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 specialist 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. From 2008 the maximum duty hours per week, which a junior doctor can work, will be 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.

12.5.9 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 who report tests.

12.5.10 Support Services

The support services will include a range of challenges including:

- Technology advancement affecting how administrative processes are conducted including electronic reporting of tests/voice recognition techniques/choose and book;
- Integration of domestic and other staff into the main clinical teams which will include the need for staff to multi-skill and take responsibility for a wider range of duties.

12.6 BRISTOL NORTH AND SOUTH GLOUCESTERSHIRE WORKFORCE PROJECTIONS FOR COMMUNITY HOSPITALS

The model of care for Bristol North and South Gloucestershire includes the provision of a community hospital on both the Southmead and Frenchay hospital sites.

12.6.1 Southmead Community Hospital

Bristol North PCT has undertaken an exercise to identify the workforce implications of establishing a community hospital, firstly applying existing skill mix, and then translating the requirements to the NHS Career Framework in order to ensure that maximum advantage is taken of opportunities for the development of new roles.

Table: 12.6.1.i – Southmead Community Hospital – Traditional Roles

Southmead Community Hospital – Traditional Staff Roles and Numbers	WTE
Administration and Secretarial	23.6
Support staff	5.4
Management	1.5
Un-registered Healthcare Staff	44.4
Radiographers (registered)	7.3
Allied Health Professionals (registered)	21.7
Nurses (registered)	30.1
Medical staff (Practitioners with special interests)	3.1
Medical Staff (Consultant led)	3.9
TOTAL	**144.0**

The clinical activity to be delivered from the Southmead Community Hospital would be delivered by around 140 whole time equivalent staff based on existing roles. Patterns of clinical care and the skills and competencies of the staff who might provide that care have been analysed and the table below indicates how many whole time clinical staff might be required at each level of the new NHS Career framework. Work with partner agencies to deliver the workforce will draw upon the identification of levels and competencies and the identified traditional professional groups currently holding those competencies.

Table: 12.6.1.ii – Southmead Community Hospital – NHS Career Framework

1	**Initial Entry Level jobs** will be employed as helpers to a range of clinics and services.	**12.1**
2	**Support Workers** Support Workers will be the ordinary level healthcare and administrative staff supporting basic healthcare procedures and administration.	**11.9**
3	**Senior Healthcare Assistants/Technicians** Likely to be senior healthcare assistants/technicians taking blood, applying plaster, carrying out basic tests and patient care in support of staff running the clinics. They will also provide the secretarial and administrative support for clinics, reception and medical records systems	**33.5**
4	**Assistant Practitioners/Associate Practitioners** Higher level administration staff with medical secretarial skills are likely to be at level 4. These staff will administer the patient choice and outpatient system.	**21.2**
5	**Practitioners** Will be providing diagnostic services and working in day surgery teams under supervision, as well as managing administration staff.	**11.2**
6	**Senior Practitioners/Specialist Practitioners** Will be providing clinics and services under the management and support of Advanced Practitioners	**16.6**
7	**Advanced Practitioners** likely to be running specialist clinics, providing clinical supervision and managing junior staff in running clinics and diagnostic services	**26.0**
8	**Consultant Practitioners** Site managers will be at level 8	**1.5**
9	**More Senior Staff** Staff at level 9 will be Medical Consultants and General Practitioners with a special interest (GPwSIs)	**7**
	Total Staff working from the new facility	**141.00**

12.6.2 Frenchay Community Hospital

South Gloucestershire PCT has undertaken an initial exercise to identify the workforce implications of establishing a community hospital on the Frenchay site. This includes the 28 beds for older adults proposed by the Avon and Wiltshire Mental Health Partnership Trust. These estimates are based upon the work done by Bristol North PCT for the Southmead Community Hospital. The first step was to apply the existing skill mix, and then to translate them into the NHS Career Framework to maximise our flexibility to develop new roles. These estimates will need to be considered in more detail later.

Table: 12.6.2.i – Frenchay Community Hospital – Traditional Roles

Frenchay Community Hospital – Traditional Staff Roles and Numbers	WTE
Administration and Secretarial	31.6
Support staff	7.4
Management	2.5
Un-registered Healthcare Staff	78.8
Radiographers (registered)	12.3
Allied Health Professionals (registered)	21.7
Nurses (registered)	53.4
Medical staff (Practitioners with special interests)	1.6
Medical Staff (Consultant led)	4.7
TOTAL	**214**

The clinical activity to be delivered from the Frenchay Community Hospital would be delivered by around 214 whole time equivalent staff based on existing roles. Patterns of clinical care and the skills and competencies of the staff who might provide that care have been reviewed and the table below indicates how many whole time clinical staff might be required at each level of the new NHS Career Framework. Work with partner agencies to deliver the workforce will draw upon the identification of levels and competencies and the identified traditional professional groups currently holding those competencies.

Table: 12.6.2.ii – Frenchay Community Hospital – NHS Career Framework

1	**Initial Entry Level jobs** Will be employed as helpers to a range of clinics and services.	**18.8**
2	**Support Workers** Support Workers will be the ordinary level healthcare and administrative staff supporting basic healthcare procedures and administration.	**18.6**
3	**Senior Healthcare Assistants/Technicians** Likely to be senior healthcare assistants/technicians taking blood, applying plaster, carrying out basic tests and patient care in support of staff running the clinics. They will also provide the secretarial and administrative support for clinics, reception and medical records systems	**52.3**
4	**Assistant Practitioners/Associate Practitioners** Many clinical and higher level administration staff are likely to be at level 4. The latter will administer the patient choice and outpatient system.	**33.1**
5	**Practitioners** Will be providing diagnostic services and working in day surgery teams under supervision, as well as managing administration staff.	**17.6**
6	**Senior Practitioners/Specialist Practitioners** Will be providing clinics and services under the management and support of Advanced Practitioners	**25.9**
7	**Advanced Practitioners** likely to be running specialist clinics, providing clinical supervision and managing junior staff in running clinics and diagnostic services	**40.5**
8	**Consultant Practitioners** Site managers will be at level 8	**2.5**
9	**More Senior Staff** Staff at level 9 will be Medical Consultants and General Practitioners with a special interest (GPwSIs)	**4.7**
	Total Staff working from the new facility	**214**

12.7 NORTH BRISTOL TRUST WORKFORCE PROJECTIONS

Table 12.7.ii sets out the major changes to the North Bristol Trust workforce from 2005/06 to 2012/13. The calculations indicate that the North Bristol Trust workforce will reduce from 7150 WTE to 6088 WTE, i.e. by 1062 WTE, with a considerable proportion of this reduction representing transfers to other providers, rather than actual job losses to the health community.

The national policy on the independent sector and plurality or providers, coupled with the shift of services to the community will impact particularly on the workforce. This reduction can be attributed to a number of changes which will take place over this period, including the commissioning of the new single site hospital for North Bristol and South Gloucestershire. The significant changes to be noted are transfers of posts to other providers (432 WTE), transfers of posts to the independent sector, (102 WTE), and OBC productivity and other OBC associated changes (482 WTE).

The growth in staff numbers associated with activity, service developments and quality provision from 2005/06 to 2013/14 of 965 WTE is broadly offset by the reduction in staff numbers assumed in the NBT Financial Recovery Plan of 1011 WTE.

The methodology used to establish staff numbers has, for the moment, assumed a consistent workforce profile, and has not yet factored in changing roles and changes in skill mix. The Trust is however working on the introduction of new roles, and therefore this work will continue to inform the workforce estimates.

Table 12.7.i sets out the overall position as calculated as part of the BHSP Workforce exercise and the points covered in 12.7.1 to 12.7.7 set out the impact of particular aspects.

Table 12.7.i – Overall Workforce Position

Staff Group	Budgeted Staff Numbers Whole Trust (31 mar 06) (WTE)	Net effect of each project on staff group (+/-) Name or Project/Proposal							
		GROWTH , SERVICE DEVELOPMENT & COST PRESSURES	FINANCIAL RECOVERY & TARIFF SAVINGS	TRANSFERS TO INDEPENDENT SECTOR	**SUB-TOTAL PROJECTED 2013/14 WORKFORCE PRE IMPACT OF THE BHSP**	TRANSFERS TO AND FROM OTHER ACUTE PROVIDERS	TRANSERS TO COMMUNITY PROVIDERS	SAVINGS FROM OBC CHANGES	**TOTAL PROJECTED 2013/14 WORKFORCE POST IMPACT OF BHSP**
Administration & Estates	1472	139	-329	-12	**1270**	-27	-10	-86	**1147**
Clinical HCAs and other support	961	152	-115	-16	**982**	-45	-17	-11	**909**
Non Clinical Support	775	86	-133	-7	**721**	-4	-6	-68	**642**
Medical and Dental	721	133	-42	-12	**800**	-40	-17	0	**742**
Qualified - Nursing, midwifery & health visiting	2018	281	-236	-34	**2029**	-154	-30	-294	**1551**
Qualified AHPs	349	67	-78	-7	**331**	0	-52	-6	**273**
Qualified scientific, therapeutic & technical staff	392	49	-36	-6	**399**	-7	-5	-8	**379**
Health care scientists	462	58	-43	-7	**470**	-8	-6	-9	**447**
TOTAL BUDGETED WTE	**7150**	**965**	**-1011**	**-102**	**7002**	**-287**	**-145**	**-482**	**6088**

12.7.1 Baseline

The baseline 2005/6 position is the budgeted WTE for 2005/6 (as at August 05).

12.7.2 Growth, Service Developments and Cost of Quality Pressures

The overall growth in inpatient activity assumed within the OBC from 205/6 to 2013/14 is 10%. Thus a 10% increase was applied to all clinical staff. It is assumed that 50% of all non-clinical staff are clinically related (medical secretaries etc) – so the 10% was applied also to the 50% of non-clinical staff. Of the increase in establishment, 183 WTE is attributable to renal and critical care developments.

The BHSP affordability exercise identified HIV, Renal, Beta Interferon and Critical Care as the main areas of service development. It is assumed that of the renal growth of £16m, 25% of this would be for pay related costs, which would equate to an increase of around 135 WTE. It is assumed that the increase in 6 critical care beds will result in increases in staff of 48 WTE.

It is assumed in the Trusts recovery plan that cost and quality pressures will be around 1% of the Trusts budget per annum (approx £3.5m). Generally most of this funding tends to be to meet non-pay pressures. Assuming that 10% of the funding is for pay pressure, this would result in an overall increase in WTE over the 9 year period of around 1%. (71 WTE). Added to this was an increase in junior medical staff of around 32 WTE associated with Working Time Directive compliance in 2009.

12.7.3 Financial Recovery Savings

Section 11.2 describes how the OBC follows on from NBT's financial recovery plan agreed in 2003. There have been a number of implications for the workforce arising from this programme (including the consequences of centralising major A&E cases on the Frenchay site in the short-term) and these are described in the recovery plan. The Trust is on schedule to deliver these changes.

12.7.4 Transfers to Independent Sector

This is based on the income loss assumed in the BHSP of £10m, of which £2.3m has transferred to the IS already for orthopaedic activity. Of the £7.7m new transfer, £5.8m is assumed to be expenditure changes. Based on 70% of this being pay – this would equate to a loss of 102 WTE to the independent sector.

12.7.5 Transfers to and from other acute providers

The impact of transfers to other acute providers is detailed in Table 12.7.iii. This shows an increase of 63 WTE associated with the transfer into the Trust from UBHT of ENT/OMF services and cardiac catheterisation. This is offset by a transfer out of 263 WTE to UBHT associated with paediatric services and breast surgery and 87 WTE for acute flows to UBHT, RUH in Bath and Weston Area Health Trust (relating to the net loss of 71 beds).

12.7.6 Transfer to the Community

The workforce projection is based on the activity and financial transfers assumed within the BHSP in outpatients, endoscopy, community beds, MIU and therapies. Based on expenditure loss of £13.8m for outpatients, endoscopy, community beds and MIU, it was assumed that 70% of this would be pay costs. This was translated into a staff transfer of 244 WTE. For the therapies it was assumed that 60% will transfer to the community which equates to 186 WTE. This is offset by the staff retained in the two community hospitals that are assumed to be retained in NBTs employment of 285 WTE. The net overall transfer to the community is 145 WTE.

12.7.7 Savings from OBC Changes including Changes to Bed Base

Table 12.7.iv shows the breakdown of the 299 WTE reduction in staffing levels associated with the OBC savings. 77 WTE arise from the lower nursing costs that result from the move to a single site, and the associated reduction in duplication of services across the two sites will result in a reduction in WTE of 222.

There is a reduction of 182 WTE, associated with the bed savings of £6.0m as per the BHSP. The £6.0m is the overall reduction in costs of the bed base between 2005/6 and 2013/14 after allowing for bed increases funded from income for extra activity, bed reductions required in the recovery plan, and transfers to and from other providers. The £6.0m equates to 134 beds which is calculated to result in a reduction in staffing of 182 WTE.

Table 12.7ii

Project	Outline 2006/07 savings	Outline 2007/08 savings	Outline 2008/09 savings	Outline 2009/10 savings	Outline 2010/11 savings	Outline 2011/12 savings	Outline 2012/13 savings	Outline 2013/14 savings	Cumulative savings to 2013/14	Pay element	Med staff	Nursing	A&C	Other clinical	Ancilliary	Mgt	Therapies
											<----------Wte savings---------->						
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000	Wte	Wte	Wte	Wte	Wte	Wte	Wte
OSIP																	
Improving acute bed utilisation	1000	1000	1000	1000				0	4000	3400		119.9	5.51				
Improving theatre utilisation	200	200	0	0	0	0	0	0	400	256	1.02	5.40	0.28				
Pathology rationalisation	100	100	0	0	0	0	0	0	200	140				4.67			
Medicines management	200	200							400	0							
Other diagnostics	50	50							100	20				0.67			
Improving patient care admin	500	500	0	0	0	0	0	0	1000	1000			54.05				
Outpatients	250	250	0	1000	0	0	0	0	1500	1500	9.00	19.1	4.05				
Day case rates	100	100							200	128	0.51	2.70	0.14				
NCRS	90	25							115								
Achieving value for money in non pay	250	250	100	100	100	100	100	100	1100								
Site Rationalisation																	
Blackberry Hill - capital charges	650	0	0	0	0	0	0	0	650								
Blackberry Hill - facilities	650	130	0	0	0	0	0	0	780	390					19.5		
review capital projects	600	300	650	550	650	500	500	550	4300								
Ongoing projects																	
Procurement	750	500	500	500	500	500	500	500	4250								
Drugs	500	500	200	200	200	200	200	200	2200								
Further savings from the switchboard project	50	45	0	0	0	0	0	0	95								
Movement in the Trust: University cost sharing of clinical academic posts	100	0	0	0	0	0	0	0	100	100							
Management structure	50	50	0	0	0	0	0	0	100	100						2.86	
Nursing	700	700	300	300	300	300	300	300	3200	3200		116					
Mattress hire	100								100								
Stationery	100	100	0	0	0	0	0	0	200								
Service Reviews																	
Stop providing/funding inappropriate services - social services, nursing home beds	50	50	0	0	0	0	0	0	100								
Income Generation																	
M	0	200	0	0	0	0	0	0	200								
Marginal savings on additional cases at tariff	1400	1500	0	0	0	0	0	0	2900								
Marginal savings on specialist cases at tariff	500	500							1000								
Overseas patients control of risk	50	50							100								
Charges to third party users of our estate	25	50	0	0	0	0	0	0	75								
Research and trial overhead/profits	100	100	0	0	0	0	0	0	200								
Mortuary charges	35	0							35								
Private & other trust Pathology charges	100	100	0	0	0	0	0	0	200								
Other																	
Therapy review	100	100	0	0	0	0	0	0	200	180							6.43
Utilities - energy conservation measures	150	150	0	0	0	0	0	0	300								
Laundry - volumes and unit costs per piece	250	250	0	0	0	0	0	0	500								
Catering	25	25							50	30					1.50		
Cleaning	50								50	30					1.50		
Maintenance contracts	30	30							60								
Equipment library	50	0							50								
Occupational health	25	25							50								
Medical gases	10	10							20								
Grounds maintenance	10	10							20	12					0.60		
Blood products usage	50	50	0	0	0	0	0	0	100								
Home drug VAT savings - high risk	50	0	0	0	0	0	0	0	50								
CNST premiums	220	280	0	0	0	0	0	0	500								
Transport review - patient and non-patient including taxis	150	100	0	0	0	0	0	0	250								
Use of charitable funds	100	0	0	0	0	0	0	0	100								
ACIS	500	0	0	0	0	0	0	0	500								
DSC benchmarking review	50	0	0	0	0	0	0	0	50								
Junior doctor banding improvements	200	200	0	300	300	0	0	0	1000		NOT WTE						
Invest to save	120	90	100	100	100	100	100	0	710								
Waiting list initiative budgets	0	0	0	500	500	0	0	0	1000								
Waste and recycling	0	100	0	0	0	0	0	0	100								
Corporate departments	750	750	200	200	200	200	200	0	2500	1750			56.76			23.33	
Further measures to be identified	781	876	2157	3250	5150	6100	6100	6350	30764	15382	31.42	79.99	118.90	73.32	109.98	62.85	78.56
Total	**12921**	**10596**	**5207**	**8000**	**8000**	**8000**	**8000**	**8000**	68724	27618	41.96	343.47	239.69	78.65	133.08	89.04	85.0

Table 12.7.iii

Workforce changes in wtes	Transfer in ENT/OMF wte	Transfer in cardiac wte	Transfers out: Paeds Woodlands wte	Paeds Barb Rus wte	Paeds Comm wte	Breast Surgery wte	Acute flows @71 beds	Total change wte
Medical staff								
Consultants	2.70	2.40	-3.40	-5.17	-6.29	-1.20		-10.96
Non-career grade medical staff			-1.00		-3.87			-4.87
SpR's	3.00		-5.00	-6.00	-3.95	-0.60		-12.55
SHOs	1.00		-6.00	-3.60	-1.80	-0.60		-11.00
PRHOs			-1.00					-1.00
Nursing staff								
Non-registered nurses	5.60	1.20	-7.59	-12.00	-2.82	-0.80	-29.11	-45.52
Registered nurses	11.60	15.00	-44.04	-65.86	-15.02	-1.42	-54.67	-154.41
Specialist/practitioner nurses								0.00
PAMs								
Radiographers	2.00	4.40						6.40
Radiographer assts	0.17							0.17
Physios	0.05		-0.27					-0.22
Physio assts								0.00
OTs					-5.12			-5.12
OT assistants								0.00
Other therapists	1.50		-0.29		-2.06			-0.85
Other therapy assistants								0.00
Other clinical staff		6.40			-21.77			-15.37
Administrative staff								
Grade 5/6					-1.68			-1.68
Grade 2/3/4	2.00	2.00	-3.84	-1.75	-20.28	-0.08	-2.84	-24.79
Ancillary staff	1.00	1.00	-2.40	-3.95				-4.35
Managers					-1.00			-1.00
Total	30.62	32.40	-74.83	-98.33	-85.66	-4.70	-86.62	-287.12

Table: 12.7.iv

Workforce changes in wtes OBC savings	Lower nursing costs for larger wards	Synergy Neuro	Synergy Critical Care	Synergy Clinical Support	Synergy Facilities	Synergy Surgery	Synergy Medicine	Synergy Corporate Svcs	Other		Total OBC savings	Bed reduction perf improvmnt 134 beds
	wte	wte	wte	wte	wte	wte	wte	wte	wte	wte	wte	wte
	(672 beds)											
Medical staff												
Consultants			0.15								0.15	
Non-career grade medical staff											0.00	
SpR's											0.00	
SHOs											0.00	
PRHOs											0.00	
Nursing staff												
Non-registered nurses	-58.74		6.55						1.90		-50.29	61.09
Registered nurses	135.88	1.50	23.31	2.90			1.00	7.20	3.29		175.08	114.73
Specialist/practitioner nurses						4.45					4.45	
PAMs												
Radiographers				5.85							5.85	
Radiographer assts											0.00	
Physios											0.00	
Physio assts											0.00	
OTs											0.00	
OT assistants											0.00	
Other therapists											0.00	
Other therapy assistants											0.00	
Other clinical staff		0.50	4.01	11.30			1.00				16.81	
Administrative staff												
Grade 5/6			1.00		3.00			1.00	-50.00		-45.00	
Grade 2/3/4		1.00	1.00	2.70	1.00			12.30	101.07		119.07	5.96
Ancillary staff				2.60	65.30						67.90	
Managers								5.70			5.70	
Total	**77.14**	**3.00**	**36.02**	**25.35**	**69.30**	**4.45**	**2.00**	**26.20**	**56.26**	**0.00**	**299.72**	**181.78**

SECTION 13: RISK MANAGEMENT STRATEGY

13.1 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 OBC stage of the programme, risk management has focused on the risks associated with the Bristol Health Services Plan range of issues including the Assessment Report, the completion of the Outline Business Case (OBC) and the Public Sector Comparator. These risks are set out in the risk log attached at Appendix 37. Risks associated with the further stages of project development will be established for each project stages and will be included in the risk register. These risks will include:

- Activity and capacity
- Engagement and communication
- Financial (operating costs and revenue)
- Workforce
- Operational
- Design and procurement
- Construction and development
- Operating and performance
- Technology and obsolescence
- Other project risks

13.2 RISK REGISTER

The risk register includes the risk, the probability and impact of each risk on the project together with its proximity. 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 and Cluster 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 categorized 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 will include high risks in the highlight report to the Project Board and Cluster Board.

The current up-to-date risk register is available from the Project Office.

13.2.1 Risks identified at OBC stage

There are a number of critical risks that have been identified during the course of development of the OBC. To respond to these risks a number of mitigation strategies have been developed and built into the structure of the NBSG programme. These risks have been incorporated into the risk register and a regular review has been embedded into the programme structure. These risks and mitigation strategies are included in the following table:

RISK	RISK IMPACT	MITIGATION
Activity and Capacity		
Over-estimate of activity due to re-direction of work to the Independent Sector (IS).	Scheme is over-sized leading to waste of resource and financial problems-work to IS being lost at full price with the Trusts being unable to release the fixed cost of buildings.	The Trusts have reduced the size of the development to anticipate the loss of some work to the IS. The scheme has also been down-sized to reflect the potential flow of activity to UBHT and Weston. In addition, the Trusts will not build new facilities to house the remaining potential contestable IS work but will concentrate this work in existing facilities in the Avon Orthopaedic Centre. This approach minimises investment in this type of work and offers the opportunity for the Trusts to close the facilities down at some point if the workload was to be lost to the IS.
Over-estimate of growth assumptions with a worst-case scenario that only1/6 of the current predictions on growth actually occurs or is affordable.	The scheme is oversized as above.	The strategy is to retain beds on site where appropriate to allow a buffer. Of the 947 acute beds on the Southmead site, at least 159 beds will be in retained/minimal refurbished areas. These beds will mostly be maternity or gynaecology. The Trusts are developing a design brief to allow for retrenchment of the gynaecology and potentially low risk birth facilities (around 70 beds in total) into Elgar House with the displacement of the services in Elgar House into the main hospital. This provides the Trusts with the ability to use up to 60 beds of the new development with retained activity. The Trusts are also looking at potential mandatory variants in the procurement process to allow for: ▪ A scheme with 50 less beds. ▪ A scheme with some shell and core facilities The Trusts will also explore the potential to attract more tertiary work from outside BNSSG.

RISK	RISK IMPACT	MITIGATION
Change in profile of specialty configurations across Bristol leading to 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 80% 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.
Over-estimate of performance, under-estimate of growth	The scheme is under-sized leading to the Trusts being unable to deal with the entire quantum of workload. The resulting two phase procurement represents poor Value for Money with PFI costs and preliminary costs being incurred twice.	The Frenchay scheme is not being procured through the PFI and leaves the option to flex the specification for the scheme to include more rehabilitation/ sub-acute facilities if there appears to be problems with overall capacity. In addition, the Southmead development will be specified to ensure ease of development and the site is sufficiently large to accommodate more facilities. Similarly, outline planning has been sought for a scheme larger than current requirements to help facilitate expansion if required.
Affordability		
Capital costs exceed budget	The Trust will pay more in Unitary Charges and this will potentially be unaffordable, particularly with the rigours of Payment-by-Results	The Trusts have included optimism bias in their capital costs to reflect the potential for under-estimation of capital cost. In addition, the Trusts have included a 10% contingency sum and has benchmarked the proposed capital cost per square metre against the last 5 schemes to reach Financial Close. The Trusts have also recruited an experienced Project Team with a clear project structure.
Projected Savings are not achieved Tariff increases for revenue consequences of capital falling below the 0.3% per annum assumed.	The Trust will not be able to manage implications with the constraints of PbR.	The risk of not achieving savings targets related to performance (£6m) is addressed above. The risk of not achieving other savings targets (£7.9m) is relatively low taking account of the scale of the opportunity for synergies and improvements in service efficiency as a result of centralising on a single acute site. This is also a relatively low risk compared to the Trusts current recovery programme, which is achieving savings of £16m per annum within the constraints of two-site working.

RISK	RISK IMPACT	MITIGATION
		However, to mitigate these risks, the Trust has made relatively conservative assumptions with regard to some costs including a high range UP assumption of 9.91% and a potentially low release of existing capital charges. The Trusts are also planning to pull forward savings plans and incorporate them into the current programme to give several years to achieve the targets. The Trust has a track record of achieving a very significant savings programme. The same project discipline will be applied to activity outlining the savings from this programme.
Overall Programme		
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 NBSG programme and as such will require the most attention. The Programme incorporates a Clinical Redesign Group charged with overseeing the implementation of the new model. The group will have representation from all the Trusts and will be serviced and supported by dedicated staff. This group will be a composite team pulling together the Trusts operational here and now processes with the longer term objectives. The Group will report directly into the Cluster Board and this Board will focus on this issue as the main agenda item. This will allow 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 12months. 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 Trusts are establishing a workforce group to target the actions required to implement the necessary changes. This group will put in place an implementation plan and will report in to the Project Board and Cluster Board.

RISK	RISK IMPACT	MITIGATION
The scheme does not attract a field of bidders	There is no competitive process and the procurement can therefore not proceed. This puts the whole scheme at risk.	The Trusts are preparing a commercially attractive scheme with minimum refurbishment, a site prepared for single phase development and an experienced Project Team. The Trusts are also undertaking a process of sounding out the market with a view to attracting a field of bidders. The Trusts are also trying to pitch the launch of the scheme at a time when the market will be ready and not absorbed with other work. There appears to be an opportunity for this before summer 2006.
Problems with Town Planning Application	The scheme is delayed due to a protracted process and potentially costs increase due to onerous Section 106 requirements. Planning permission is too constraining on the preferred scheme and does not allow sufficient scope for PFI innovation.	An Environmental Impact Assessment has been developed at an early stage to set clear parameters for the scheme. The Trusts have also engaged the Councils at early stage and have received commitment to allocating dedicated manpower to the application. The application is also for a larger scheme than anticipated to provide flexibility for the potential PFI proposals.
Programme is not adhered to	The overall programme becomes delayed and problems arise due to escalating capital inflation and procurement costs.	The Trusts are maintaining a Prince 2 programme management system and have recruited a Project Team with experience of managing complex PFI procurement. The Trusts are also developing a pre-procurement enabling scheme 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.
Public concerns about preferred site location	Delays will occur whilst challenges from various stakeholders are addressed.	Detailed BHSP reports are produced to support each round of decision making. The Trusts have established public involvement groups and regular discussions are taking place with the local public. The proposals have received endorsement from the Secretary of State.

13.2.2 Trusts Retained Risks and Management Plans

For the later stages of the programme development, it is acknowledged by the Trusts that employing a PFI solution will result in a significant proportion of the total project risk being transferred to the private sector.

The table below summarises the risks that are to be retained by the Trusts for those ongoing stages and outlines the Trusts' proposals for their management and mitigation.

RISK	MITIGATION
Change in the requirements of the Trusts	The Trusts have 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 Trusts' 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 will be 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 Trusts and reconciled to ensure a clear audit trail between the documents and the specified design operational policies. The Trusts have agreed that these documents are, when signed, prime contractual documents and can only be changed by the agreed change mechanism process managed by the Trusts' Project Manager.
Change in design due to external influences specific to the NHS	The monitoring of external issues is part of the Trusts' 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.
Unforeseen ground conditions under the footprint of the existing facilities	The risk of unforeseen ground conditions of the existing facilities will lie with Project Co. This risk will be mitigated as far as possible by commissioning a desk top study and a full geotechnical and services survey of the site including strategically place boreholes and trial pits to establish the nature of the ground immediately adjacent to the existing buildings. The risk of any active services being discovered on the site during construction will lie with Project Co.
Delay in gaining access to the site	The proposed location for the new clinical building will be cleared by preparatory demolition.
Compensation events and Force Majeure risks	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 Trusts' control. Should they occur, they will be managed through the Trusts' established risk management arrangements and, where necessary, in conjunction with the Trusts' main commissioners.
NHS specific legislative and regulatory change	The monitoring of external issues is part of the Trusts' 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.
Changes in the rate of VAT or in VAT legislation	Any changes in VAT legislation or the rate of VAT payable would be beyond the Trusts' control. The Trusts would take advice to determine the impact of any such changes. VAT payments are generally refundable.
Incorrect time and cost estimates for decanting from existing buildings	The Trusts will seek expert advice with regard to the programme and cost for decanting patients and equipment from the existing hospital. A detailed programme will be produced and agreed by the departments and personnel likely to be involved in the move. The Trusts will retain the risk of any overrun to the programme as well as incorrect cost estimates.

RISK	MITIGATION
Change in the specification for the operational stage of the contract	The service output specifications, which have been developed with the involvement of service managers and operational staff, attempt to define clearly the Trusts' 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 Trusts' requirements will change in the period leading up to the operational phase of the scheme. The Trusts will seek 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 Trusts through a strict service variation process and the Trusts will have the opportunity to reconsider service enhancements and value for money improvements every five years at each market testing of soft FM services.
NHS specific legislative and regulatory change having capital cost consequences	Any legislative and regulatory change would be managed as indicated above.
Changes in VAT	These would be managed as described above.

RISK	MITIGATION
Incorrect cost of providing clinical services	The risk valuation of these events is based on their residual impact, i.e. additional costs. Should they occur they will be managed through the Trusts' established cost monitoring and control arrangements and, where necessary, in conjunction with the Trusts' main commissioners.
Incorrect estimated cost of energy used	The risk of incorrect estimates of energy will remain with the Trusts as per the standard form of contract. The risk that energy costs will be higher than anticipated for the service operating period will be managed by the formal routine periodic reporting and thermal and energy efficiency testing procedure included in the Contract.
Patient infection caused by staff employed and controlled by the Trusts	The risk valuation of this event is based on the increased treatment costs, and possibly legal costs, that the Trusts would incur. The Trusts will continue to manage this risk through its established infection control procedures and risk management arrangements.
Changes in the size of the allocation of resources for the provision of health care	The Trusts have 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 Trusts' strategic direction.
Changes in the volume of demand for patient services	The comments made above also apply to this risk. Such changes are managed jointly with the Trusts' main commissioners. The Trusts will continue to monitor activity routinely to identify variances from both contracted and projected levels.
Unexpected changes in medical technology	It has been assumed that advances in technology would lead to a lower bed requirement and/or service substitution in non-hospital settings. As such the Trusts would be well positioned to withdraw from and dispose of some of its estate.
Unexpected changes in the epidemiology of the catchment area	As above.
Unexpected sudden increases in demand due to major incident	The contract requires Project Co to work alongside the Trusts in responding to emergencies. The Trusts have experience in

RISK	MITIGATION
	major incidents.
Termination due to default by the Trusts	The circumstances in which this can happen have been kept as narrow as possible. The Trusts' contract management arrangements will provide regular information to enable early action to be taken in the event of a potential default.
Termination due to default by the operator	This risk will be managed through the selection of a leading service provider that has extensive experience of service operations in the public sector and also a major share of the Project Company. In addition, the compensation payable under the Project Agreement's termination provisions is sufficiently penal to provide an incentive for the financiers to step in and continue to make the operation viable at no additional cost to the Trusts.
Technological change leading to the Trusts revising the output specifications	See above.
Control of clinical services	By retaining control of clinical services the Trusts retains significant control of the nature of the services provided by the operator and this is reflected in the service output specifications. Any changes sought by the service operator in response to changes in clinical services would be dealt with as outlined above.
Delayed planning approval	The Trusts will work closely with Bristol Council to prepare a planning approval and a thorough EIA will be completed at outline stage. The cost and timetable risk associated with satisfying the planning conditions will remain with Project Co.

The Trusts 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 Trusts' 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.

SECTION 14: PROGRAMME MANAGEMENT AND TIMETABLE

14.1 INTRODUCTION

This section sets out how the programme is managed through its stages of procurement and on-going development.

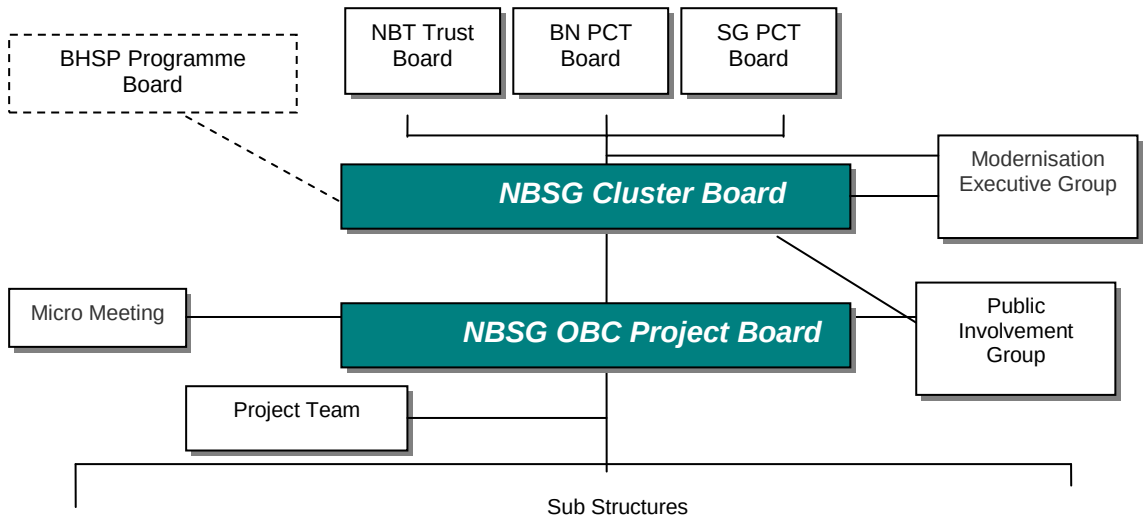
14.2 PROGRAMME STRUCTURE

The local health community, comprising North Bristol Trust, Bristol North PCT and South Gloucestershire PCT, is responsible for the overall success of the Programme with North Bristol Trust retaining day to day responsibility for Programme management and associated contractual responsibilities. The Programme is included within the Bristol Health Services Plan Programme of projects which acts as a reference group, however, Programme responsibility rests with the Boards of the three organisations.

During the period of development of the Strategic Outline Case, the programme included within its remit the development of community facilities at Yate and Thornbury. Following SOC approval in July 2004, it was agreed that these two projects, which were likely to be provided through a separate procurement route, would develop their own project structure and business cases. These two projects are included within the remit of the Cluster Board, but are no longer part of the NBSG OBC.

The programme structure showing the links with the wider health community is set out in figure 14.2i below:

Figure 14.2i: Programme Structure



The local health community plays an active role in all aspects of programme development and are equal partners on the Cluster Board and the Project Board at chief executive and planning director level. Sub-structures reporting to the Project Board and covering key areas such as service planning, finance, workforce, estates and design include representatives from the three organisations plus staff side and public representation where appropriate.

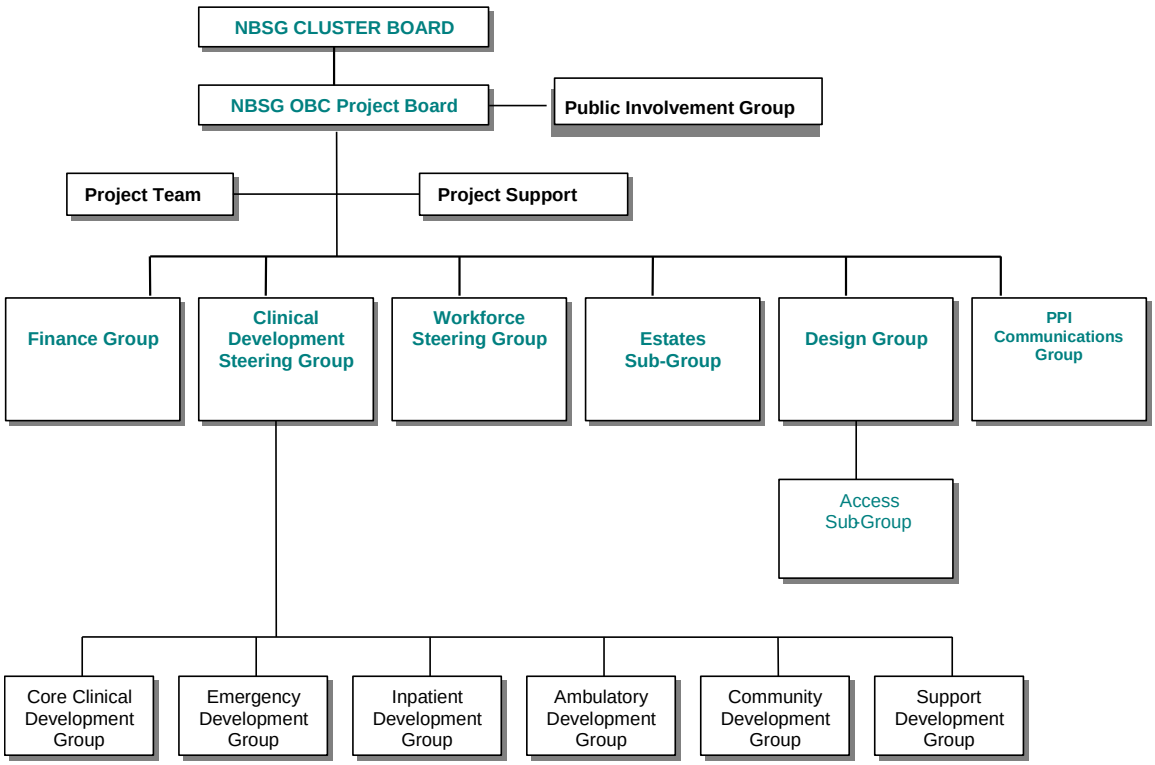
The sub groups within the Programme include a strong service planning element to provide clinical expertise to and ownership of the development of new models of care. The service planning work stream is headed up by a Clinical Development Steering Committee (CDSC) which has six Development Groups reporting to it. These groups include representation from the partner organisations at a clinical and managerial level. The groups were set up to cover the following areas:

- Inpatients
- Ambulatory care
- Core clinical services
- Emergency care
- Community services
- Support services.

These groups have led the development of the model of care that underpins the facilities development and have been instrumental in confirming the schedule of accommodation and associated clinical adjacencies for all services.

The range of groups and sub groups specific to the development of the Outline Business Case are set out in figure 14.2.ii below:

Figure 14.2ii: OBC Programme Sub-structures



14.3 STAKEHOLDER ENGAGEMENT

There is wide stakeholder engagement in the project with a Public Involvement Group (PIG) comprising up to 40 people established to advise on patient and public issues. The group meets on a monthly basis and usually just in advance of the Project Board so that information can be fed quickly through to the Project Board. Two representatives from the PIG sit on the Project Board and a further member is part of the Design Group. Staff side representation is included at a range of levels including the Cluster Board, Project Board and its sub-structures. Information is provided to staff through regular sessions held by the Chief Executive, Trust newsletters and open days.

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. The Programme Initiation Document is attached at Appendix 38. Highlight reports are provided to each monthly Cluster Board and to the OBC Project Board. Terms of reference have been established for all key groups supporting the projects and records maintained of all relevant discussions.

A project team, comprising representatives from key disciplines meets on a weekly basis to progress issues and address any exceptions in accordance with the project and stage plans.

Details of the key roles with responsibility for the project are set out below:

Project/Programme Sponsor (SRO)	[REDACT], Chief Executive, NBT
Project Director	[REDACT], Director of Projects
Project Managers	[REDACT]: NBSG OBC [REDACT]: Southmead Community Hospital [REDACT]: Frenchay Community Hospital
Project Officer	[REDACT]
Configuration Librarian	[REDACT], NBT

14.5 TERMS OF REFERENCE

The terms of reference for the Cluster Board, Project Board, Micro Meeting, Project Team and Clinical Development Steering Committee are set out below:

Table: 14.5.i – NBSG Cluster Board – Terms of Reference

NBSG CLUSTER BOARD	
Overall Responsibility & Accountability	Ensure that the overall objectives of the projects within the cluster programme are achieved. The Cluster Board is accountable to the Boards of the three organisations, North Bristol Trust, Bristol North PCT and South Gloucestershire PCT
Objectives	Identify the inter-relationships and interdependencies between the projects within the cluster programme and between clusters. Take steps to limit the impact of these on individual projects and takes advantages of synergies across the cluster Identify the resources in terms of staff time and financial cost in managing projects within the cluster programme and a funding route for these costs
Objectives cont'd	Ensure that the projects within the cluster form part of a cohesive strategic vision across the Bristol, North Somerset and South Gloucestershire health community

NBSG CLUSTER BOARD	
	Report on progress to the BHSP Programme Board Decision making for cluster programme issues as required Performance management of cluster projects.
Delegation limits	Decision making on shared issues where there are impacts on several projects within the cluster. It cannot make decisions that materially affect the finances or shape of service delivery of the individual organisations without individual board sign-off.
Membership	Chief Executives and Directors of Planning in local health community, Director of Finance (NBT), Strategic Health Authority, Universities, Local Authorities
Chair	Chief Executive, North Bristol NHS Trust
Frequency & duration	Monthly for 2 hours
Administration	[REDACT]Agenda to be circulated a minimum of one week before the meeting and notes of the meeting to be circulated no later than 2 weeks after the meeting

Table: 14.5.ii – NBSG Project Board – Terms of Reference

NBSG PROJECT BOARD		
Overall Responsibility & Accountability	For the overall direction and management of the NBSG programme (Southmead and Frenchay projects). Accountable to the NBSG Cluster Board	
Objectives	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, PITN, FITN and FBC. Complies with NBSG Cluster Board directives and refers issues outside its delegated tolerances to the NBSG Cluster Board Assures successful completion of all products and approves project closure documentation and follow-on actions	
Delegation limits	Decision making in accordance with NBT's detailed Scheme of Delegation (July 2005) and that affects the NBSG projects but which does not have implications for the wider cluster of projects either within NBSG or BHSP. It cannot make decisions that significantly affect the finances of each organisation. It has delegated responsibility for managing and controlling the NBSG OBC project budget. NBT Scheme of Delegation is summarised as follows: **Revenue:** £100 - £500k: Director of Finance £500k - £1 million: Chief Executive Over £1 million: Trust Board	**Capital:** £100k - £500k: CPMG approval >£500k: Trust Board
Membership	Project Director, Director of Finance, Non-Executive Director (appointment to be confirmed), users and suppliers from the health community including NBT, BNPCT, SGPCT, staff side representatives and public involvement group members	
Chair	Project Director	
Frequency & duration	Monthly or as required by the project programme (two-weekly reserve dates are in diaries) – maximum of 2 hours	
Administration	[REDACT]Agenda to be circulated a minimum of one week before the meeting and notes of the meeting to be circulated no later than 2 weeks	

NBSG PROJECT BOARD	
	after the meeting.

Table 14.5.iii – NBSG Project Team – Terms of Reference

NBSG 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, Director of Finance, 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	[REDACT]Forward agenda including issues log to be circulated a minimum of one day in advance of the meeting.

Table 14.5.iv – Micro Meeting – Terms of Reference

MICRO MEETING	
Overall Responsibility & accountability	Responsible for ensuring that the programme (Southmead and Frenchay) is proceeding in the right strategic direction, taking account of latest government policy change and ensuring appropriate fit with NBT operational development. The Micro Meeting is accountable to the Project Board.
Objectives	Reviewing progress against MCP and stage plans to ensure key milestones are achieved within the critical path. Agreeing urgent corrective action where plans are not being met. Quality assuring the 'products' that will be delivered within the OBC process, including products created as part of each stage. Providing advice and a chief executive 'steer' or decision on urgent complex and political issues as required. Advising the chief executive about any critical issues in relation to the project that need to be noted/actioned. Advising on agenda items for discussion at health community meetings such as Modernisation Executive and BHSP Programme Board.
Delegation limits	The Micro Meeting's level of delegated authority includes urgent decision making that affects the business of NBT but not decisions that have a wider impact and which require Project Board, Cluster Board or other approval. Decisions about NBT business which could have significant implications for staff or patients need to be agreed at the OBC Project Board and are not within the delegated authority of the Micro Meeting.

MICRO MEETING	
	All key decisions (those that have a significant impact on the project) to be reported to the OBC Project Board for approval.
Membership	NBT Chief Executive and Directors of Projects, Strategic Development, Finance and Human Resources. Medical Director as required. Deputy roles in Projects, Strategic Development and Finance.
Chair	NBT Chief Executive
Frequency & duration	Weekly for up to 2 hours
Administration	Secretary: [REDACT] Agenda and notes out 2 working days before each meeting

Table: 14.5.v – Clinical Development Steering Committee – Terms of Reference

CLINICAL DEVELOPMENT STEERING COMMITTEE	
Overall Responsibility & accountability	To oversee the development and agreement of the model of care and associated documentation for the OBC, ITN and FBC that underpins the development of the new facilities. Provide clinical expertise and advice to support the programme. Accountable to the Project Board.
Objectives	Oversee the work of the six Development Groups, ensuring that they achieve the key project milestones, that areas of overlap and conflict are identified and resolved. To confirm the schedule of accommodation for the community and acute facilities. To oversee the production of clinical output specifications, ensuring they meet OBC and ITN requirements. To act as a focus of expertise and advice to the Cluster Board, Project Board and Trust/PCT Boards in relation to clinical & service delivery issues.
Delegation limits	Decision making that is in line with the programme objectives and which does not deviate from the overall programme, programme budget or frameworks agreed by the Project Board.
Membership	Senior clinical expertise including chairs from each Development Group, finance, service planning. Advisors as required.
Chair	Medical Director
Frequency & duration	Monthly for up to 2 hours
Administration	Secretary: [REDACT]. Agendas to be issued a minimum of one week before each meeting. Notes to be circulated no later than 2 weeks after the meeting.

14.6 THE ADVISORY TEAM

The project is support by a highly experienced and professional advisory team as set out in the table below:

Table 14.6: Project Advisory Team

Advisor	Thumbnail sketch
Strategic Healthcare Planning Architects and service planners	Strategic Healthcare Planning is supporting the development of the OBC by providing architectural, technical advisor and service planning support. They are a healthcare consultancy company, formed specifically to assist the NHS and other healthcare organisations in the strategic planning arena. The services provided include a full range of service, business and capital planning at strategic and operational levels and across a spectrum of primary, secondary, tertiary and whole health economies.
WT Partnership Estates and project management services and quantity surveyors	WT Partnership provides leading consultancy services to the property and construction industry. They provide specialist skills in the financial and project management of construction projects, infrastructure works, civil engineering, petro-chemical works and energy related projects. Support to the OBC and PSC includes quantity surveying and estates

Advisor	Thumbnail sketch
	and project management.
Capita Symonds Mechanical and Electrical Engineers	Capita Symonds is a multidisciplinary consultancy operating in the building design, civil engineering, environment, management and transport sectors. The Company provides mechanical, electrical and technical design support to the OBC and PSC.
Hyder Consulting (UK) Structural Engineers	Within the building market, Hyder Consulting has extensive experience of structures of every size, intricacy and purpose. This includes tall buildings and unconventional and complex structures in its main markets – offices, industrial, retail, health and education, and leisure. Forming part of the Design Team, Hyder provide structural engineering support to the OBC and PSC development.
White Young Green Planning Consultants	White Young Green offers practical town planning advice and has developed and led the planning application and Environmental Statement Submissions for the OBC. With a team of 30 experienced professional chartered town planners, White Young Green Planning provides independent expert advice at all key stages of the planning process, to inform and influence decisions on development proposals.
Peter Evans Partnership Transport Planning and Traffic Engineering Consultants	Peter Evans Partnership is a specialist transport planning and traffic engineering practice, providing input to the planning application and Environmental Statement. Their professional approach places particular emphasis on the evolution of proposals within planning, environmental and design constraints and on practicality of implementation. Of increasing importance are environmental impact and sustainability issues and assisting on travel plans. Detailed traffic engineering services include detailed road and junction planning, traffic impact analysis and site layout planning.
Baker Associates Sustainability Consultants	Baker Associates provides consultancy services in town planning, economic development and communication to clients in all sectors throughout the country. Their specific role in relation to the OBC has been in developing information and analyses on sustainability.
Cresswell Associates Environmental Consultants	Cresswell Associates is a specialist consultancy providing environmental services to the planning, construction and development industries. Their work encompasses all disciplines of ecology, nature conservation and biodiversity. They have provided consultancy support in relation to the development of the planning application and Environmental Statement
Finnamore Management Consultants Management Consultancy: Quality assurance of OBC documentation	Finnamore Management Consultants work exclusively in the health and social care sector. They are experienced in a wide range of service areas from strategy development to change management and organisational development. Their role in relation to the OBC is to quality assure the development of the OBC, ensuring required standards and content are included in the document.

14.7 PROJECT PLAN AND TIMETABLE

A detailed project plan is attached at Appendix 39. Key milestones are set out in the table below:

Table:14.7 – Key Milestones

Milestone	Date
SOC approved by Secretary of State	July 2004
Joint decision making forum confirms Southmead as preferred site for acute hospital with community hospitals at Frenchay and Southmead	March 2005
OBC agreed by local health community	December 2005
Submission of OBC to Strategic Health Authority and PFU	January 2006
Outline planning Committee resolution for Southmead received	30 March 2006
Approval of OBC	30 March 2006
Project: Southmead	
Submission of OJEU notice for Southmead	1 April 2006
Expressions of interest received	May 2006
Issue Pre-qualification questionnaires	May 2006
Pre-qualification questionnaires received	June 2006
Four bidders identified and preliminary ITN issued	July 2006
Responses to PITN	October 2006
Evaluate bids and shortlist to two bidders	December 2006
Issue Full Invitation to Negotiate	December 2006
Bidder response to FITN	April 2007
Preferred partner identified	June 2007
Submit full planning application	January 2008
Full business case submitted	May 2008
Full planning approval received	May 2008
Business case approved	June 2008
Financial close	August 2008
Building complete	September 2012
Commissioning complete	March 2013
Facilities ready for occupation	April 2013
Project: Frenchay	
Agree Procurement Route	April 2008
Secure Outline Planning Approval	April 2009
Complete Scheme	April 2013

SECTION 15: PREPARING FOR PROCUREMENT

15.1 INITIAL STAGES

The first stages in preparing the scheme for procurement are detailed below:

- **OBC Sign off**: The OBC is expected to be approved by the local health community organisations in December 2005 and the by the Strategic Health Authority in January 2006. An approvals timetable has been developed to ensure that the OBC is agreed at all required forums.
- **Outline Planning Resolution**: The outline planning application will be submitted in November 2005, with a 16 week period allowed for resolution. An Environmental Statement will be issued to support the planning application.
- **Agreeing the Scope of the Procurement:** The three Trusts need to agree a procurement route for the development with clear definitions of inclusions and exclusions

15.2 AGREEING THE SCOPE OF THE PROCUREMENT

The proposed procurement routes for the various elements of the scheme are summarised in the following table:

Table: 15.2 – Proposed procurement routes

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

15.2.1 New Southmead Development

There are several key decisions that govern the shape of the Procurement. The first relates to the overall building scope within the PFI. The proposal is to procure the main acute/community scheme at Southmead through a PFI in line with the VfM analysis included in this OBC.

This procurement will include a new hospital building incorporating some refurbished areas as detailed in this case. Included in the core scope of the scheme will be Hard FM services (maintenance of the building) and the Trust will include a proposal for the potential maintenance of other buildings on the site that are being retained, including the maternity and mental health blocks.

It is also proposed to include a requirement to provide an interim estates maintenance contract over the existing estate at Southmead once the contract has been signed.

Other proposed inclusions in the core PFI deal will be car parking and retail (hospital shops etc.).

15.2.2 Facilities Management

The Trusts propose at this stage to exclude Soft FM services (cleaning, catering etc.) from the PFI deal based on a qualitative Value for Money assessment (Appendix 40) and an initial soft market testing of equivalent costs that suggests PFI might add 5-10% to existing Soft FM costs.

The Trust proposes to firm up this quantitative assessment and couple it with the qualitative assessment before making a final decision on scope.

15.2.3 IM&T

The Trusts propose to include core IT infrastructure in the project, wiring and cabling etc. but propose to exclude IT software. This decision is based on the problems encountered in other PFI schemes of specifying IT sufficiently robustly to transfer risk but to keep open the options of refreshing IT solutions to keep up with the change in technology.

15.2.4 Equipment

The Trusts propose to ask the PFI developer to include the purchase and commissioning of a large percentage of the hospital equipment (excluding equipment that the Trusts will transfer and continue to use). This will act as a turn-key contract and be linked to initial availability tests of the building. The developer will not be asked, however, to provide on-going maintenance and support for this equipment. This decision is a VfM based decision with the qualitative assessment shown in the following table:

Table: 15.2.4 - VFM

		INCLUDE IN PFI		EXCLUDE FROM PFI	
	Wt	**Narrative**	**Score (1-5)**	**Narrative**	**Score (1-5)**
Transaction costs and client capacity	30	This is a difficult area to manage from a client perspective. It is also an area that has proved difficult to include in PFI deals without watering down the initial proposals. The probability is that including this element in the deal will add to timescale and transaction costs.	1	Excluding the on-going refresh and maintenance of equipment from the PFI makes the transaction simpler but still requires the Trust to be specific about equipment requirements at an early stage.	4
Competition	20	The inclusion of equipment in the PFI introduces a competitive element to equipment pricing but there are issues as to whether the PFI process is the best method for securing VfM through competition. This is because the process of securing best value on equipment can potentially become lost in the broader deal especially with the pressure on time-scale and the number of parties involved in closing the contract discussions.	2	The exclusion of equipment allows the Trust the freedom to construct a more targeted process around equipment leasing or purchasing. The issue is whether the Trust actually embarks on this process without the discipline of a PFI deadline.	4

		INCLUDE IN PFI		EXCLUDE FROM PFI	
Incentive and monitoring	30	It is questionable whether the outcomes or outputs of the investment programme can be described in contractual terms which would be unambiguous and measurable. Previous competitions have experienced problems in getting the service to be assessed against an agreed standard	2	There is probably a greater opportunity for the Trust to target outputs and performance in a separate process with the equipment provider.	3
Innovation	20	The inclusion of equipment within the PFI does offer the opportunity to innovate and consider the facility as a whole although in practice there has not been a good track record of this in PFI.	2	The exclusion of equipment from the PFI removes the opportunity to innovate with regard to the building/equipment interfaces however, there are a number of opportunities to look at the structure of lease deals with a view to innovation/ incentivisation.	2
Total Weighted Score			170		330

The Equipment Strategy is given at Appendix 41.

From the quantitative perspective, the PFI solution is likely to be more expensive due to the risk perceived by the PFI consortia. Soft market testing on this issue has suggested a 25% premium on equipment is likely. This compares to around 17% on a non-PFI lease deal.

The conclusion of this VfM analysis is that the Trust is unlikely to extract maximum value from an integrated managed equipment deal.

15.2.5 Enabling

The Trusts propose to prepare the potential development site in advance of the PFI by conducting an enabling programme. The rationale for this approach is:

- Increasing certainty and therefore attractiveness of the scheme to PFI;
- Streamlining the procurement process by increasing clarity over risk transfer;
- Shortening timescale by parallel running the procurement and the enabling.

The Trusts intends to put together a process to manage this programme and will fund the programme from a combination of Strategic Capital and Trust Capital.

15.2.6 Phasing

It is proposed to minimise the number of phases in the Southmead scheme and the enabling programme is an important factor in this approach. The Trusts have explored this issue in some depth due to the potential advantages of a phased approach in terms of keeping options open as long as possible to respond to changes in the healthcare environment. The rationale behind minimising the number of phases is summarised as follows:

- Cost of multiple phase construction;
- Cost of procurement;
- Constraints of the Southmead site
- Uncertainty of procurement methodology change

15.2.7 Multiple Phase Construction

A major issue with large scale construction is the preliminary costs associated with each stage of the development. There is a definite cost dividend in being able to construct the new hospital in a single phase. Initial market sounding suggests that this dividend is equivalent to around £20m. The BHSP programme is already carrying a certain degree of risk and it would therefore appear unwise to increase the total capital value of the NBT scheme by this order.

15.2.8 Cost of Procurement

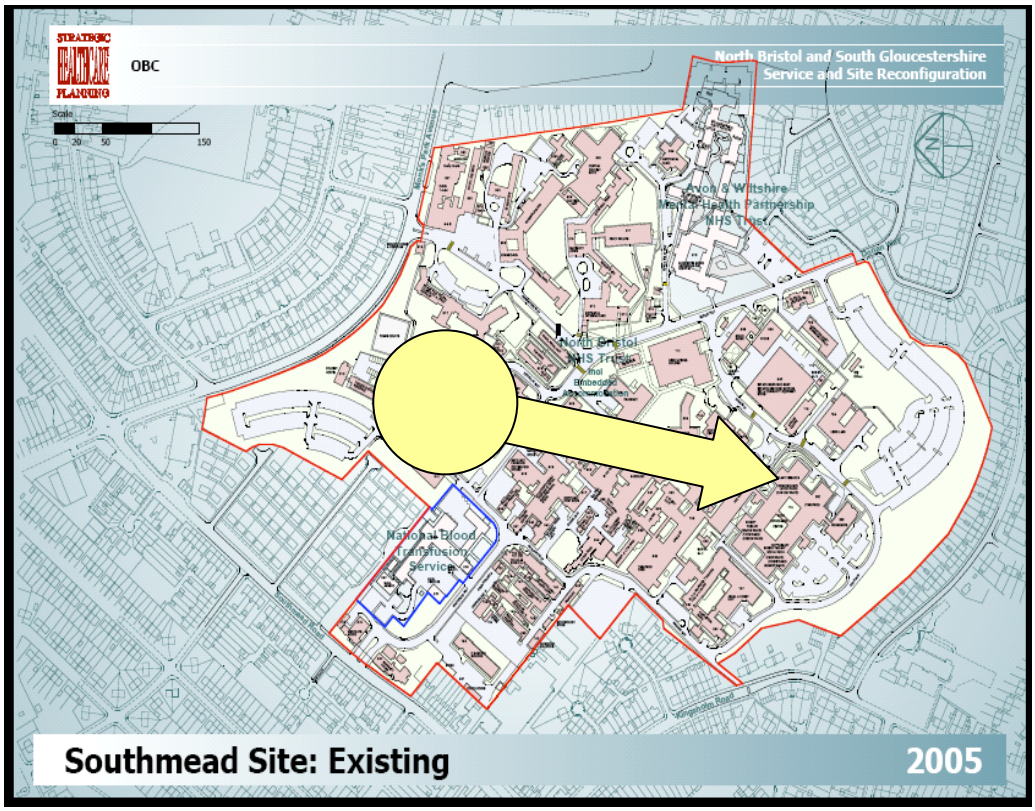
There is an in-built cost to each PFI procurement that is particularly high, compared to traditional methods. Advice from financial advisers suggest that the procurement cost of the Southmead scheme will be around £30m and that a double procurement could add 50% to this sum, an additional £15m. The BHSP context outlined above suggests that a multiple-procurement would be unwise.

15.2.9 Constraints of the Southmead site

The main problem that a phasing approach has to contend with is the fact that the core hospital which needs to keep going during construction is in the middle of the site. This means that a new development will inevitably need to settle on one end of the site (either the North or the South part of the site). A consequence of this will be that there will be an inevitable spreading out of facilities on site during an interim phase. For example, a North site development will inevitably lead to a large gap between the new development and existing services in the Avon Orthopaedic Centre/Imaging/Renal Services. A South site development will produce large gaps between the new development and the wards and services around Elgar House.

This could potentially lead to a very difficult to manage estate whilst at the same time there will be an imperative to deliver high levels of productivity to meet the affordability and service targets within the BHSP as well as national targets and initiatives.

The potential spread of services with a North site interim development is shown below:



15.2.10 Uncertainty of Procurement Methodology Change

There is a possibility that the current PFI procurement methodology will change over the next few years and this creates the possibility of having to undergo a hybrid process with one phase of the new hospital being conducted under current methodology and another phase having to use a different method. This could lead to an increase in complexity with associated problems in managing the project to time and cost.

15.2.11 Frenchay Development

The Trusts are not intending to place the Frenchay scheme in the main PFI. The Frenchay site development is of a smaller scale than the Southmead scheme and there are a number of possible factors that might still influence the final shape of the scheme. These factors include the impact of the independent treatment centre Initiative with the potential to land a scheme on the Frenchay site. To respond to this level of uncertainty, it is proposed to procure the Frenchay development under a different route with options being kept open until the procurement needs to commence. It is envisaged that this procurement process will commence in 2007 so there is time to assess the exact scope of the scheme.

Options for procurement of the Frenchay scheme include:

- LIFT;
- Traditional procurement using NBT capital;
- Procure 21 procurement using NBT capital;
- Small-scale PFI;
- Other types of Joint Venture.

15.3 PREPARING THE PFI PROCESS

The PFI process for the Southmead arm of the scheme will be developed with the following main phases:

Preliminary Invitation to Negotiate (PITN):The PITN will consist of a main document which incorporates the required submission information from bidders and four annexes:

- Whole hospital and clinical policies;
- Technical output specifications;
- Services output specification;
- Draft standard form contract, amended as required.

Memorandum of Information (MOI) and Pre-Qualification Questionnaire (PQQ): The MOI and PQQ will be prepared for review and sign off by the Project Board in February 2006.

Market Sounding: A soft market testing exercise will be undertaken prior to placing the OJEU advert. The aim is to raise awareness and generate bidder interest in the project.

Data Room: An extranet data room facility will be procured and utilised throughout the project. It will be fully available at the PITN stage.

Legal Audit: Due Diligence.

Gateway Review: Gateway (0) was completed in as part of the programme of projects within the Bristol Health Services Plan. Gateway (1) will be undertaken in early December 2005.

Design Review Panel (DRP): 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) is planned to be completed in December 2005.

OJEU Advert and Launch Preparation: The OJEU advert will be drafted by legal advisors and signed off by the Project Board in February 2006.

15.4 THE PFI PROCESS

15.4.1 Pre-qualification: Select Four Bidders

Bidders will respond to the MOI/PQQ within the defined time period of 21 days. Once received, the responses will be evaluated by the Project Team who will then make a recommendation to the Project Board for the shortlist of 4 bidders to be approved.

15.4.2 Preliminary Invitation to Negotiate: Select Two Bidders

The PITN will be issued to the short-listed bidders (4) and a process of developing bids will be undertaken;

Once the bidders have formally responded to the PITN, their bids will be evaluated and scored and a recommendation made to the Project Board of the 2 short-listed bidders.

15.4.3 Final Invitation to Negotiate: Select Preferred Bidder

The FITN will be issued to 2 bidders. Meetings will be held with the bidders to enable them to further develop their proposals. Final proposals will be presented to NB/SG representatives, following which a period of time will be allowed for clarification of proposals in advance of the formal evaluation of the proposals by the Project Team.

- An evaluation report will be presented to the Project Board along with the Preferred Bidder letter which will be drafted at the same time.
- Once the Project Board has approved the recommendation for Preferred Bidder, time is allowed to discuss the Preferred Bidder letter with the proposed Preferred Bidder and obtain approval from the PFU.
- The final decision the rests with the North Bristol Trust, Bristol North PCT and South Gloucestershire PCT Trust Boards for the appointment of the Preferred Bidder once the letter is agreed.

15.4.4 Stage 6: Full Business Case and Financial Close

Once the Preferred Bidder has been appointed, the detailed planning application and full business case will be submitted.

- The final stage to contract close including the production of the Full Business Case will be undertaken in close conjunction with the Preferred Bidder.
- Once planning permission has been granted and the Full Business Case has been approved, North Bristol Trust, Bristol North PCT and South Gloucestershire PCT and the Preferred Bidder will sign the Project Agreement.

15.4.5 Stage 7: Construction and Commissioning

Once the Project Agreement has been signed, the Preferred Bidder will have a specified time in which to construct the new hospital.

Throughout the construction period, North Bristol Trust, Bristol North PCT and South Gloucestershire PCT will need to ensure that affected staff and organisations are prepared for the new ways of working in accordance with the model of care in the context of the design of the new hospital.