

EXECUTIVE SUMMARY

1.1 Introduction

- 1.1.1 This Outline Business Case (OBC) seeks approval for Brighton and Sussex University Hospitals NHS Trust (BSUH) to invest £420.1m in the development at the Royal Sussex County Hospital of the Regional Centre for Teaching, Trauma and Tertiary Care for the people of Sussex and beyond. The development also includes the renewal of key District General Hospital services for the local population in Brighton & Hove. Collectively, this is known as the 3Ts programme. The Trust proposes that this is a publicly funded development.
- 1.1.2 The Trust operates across two main campuses, the Royal Sussex County Hospital in East Brighton, and the Princess Royal Hospital in Haywards Heath. The Trust operates as one hospital across these two campuses, both of which have Accident & Emergency Departments and consultant-led maternity services but which service two distinct catchment populations for District General Hospital services.
- 1.1.3 The Princess Royal is the main site for planned, elective, case for the Trust whilst the Royal Sussex County is designated as the major site for trauma and other emergency care which requires the full range of surgical support.
- 1.1.4 The Trust is the Teaching Hospital for the region and was created in 2001. The Medical School is one of the most popular in the country and has one of the highest student satisfaction rates for the quality of the education and training provided.
- 1.1.5 The Trust also provides a range of specialist (tertiary) services for the region, including cardiac surgery, paediatrics, neurosciences, cancer, renal and HIV. The Royal Sussex County Hospital hosted the first renal dialysis unit outside London.
- 1.1.6 The aims of the 3Ts Programme are fully aligned with national, regional and local priorities and the intentions of the local Clinical Commissioning Groups and NHS England's Specialist Commissioners. The programme has the support of all NHS organisations across Sussex, which was reflected in the approval of the OBC by NHS South of England in March 2012.

Figure 1.1 Aerial view of the proposed redeveloped campus



1.1.7 The 3Ts programme will provide a modern, fit for purpose environment for patients from Brighton & Hove and across Sussex and the South East. It will mean that many patients who currently have to travel to other centres outside the region can be treated closer to where they live and cut travel times and distances for them, their relatives and carers. This planned redevelopment maintains the role of the Princess Royal Hospital as the Trust's planned care centre and the District General Hospital for Mid-Sussex.

1.1.8 The **five** investment objectives of this programme are:

- **Investment Objective 1:** Replace the wards and other clinical accommodation currently in the Barry and Jubilee buildings on the Royal Sussex County Hospital (RSCH) campus with accommodation that is 'fit for purpose' and meets standards of privacy and dignity, in line with existing and emerging national priorities. The Barry and Jubilee buildings are over 180 and 130 years old respectively and currently contain just under 200 beds for general and elderly medicine (including the frail elderly an patients with dementia), cancer, HIV and Infectious Diseases. The wards in the Barry building cannot even be described as 'Nightingale' wards since they were brought into operation 20 years before Florence Nightingale became a nurse. Both buildings were completed before X-ray was discovered and before the sphygmomanometer for taking blood pressure was developed: by the autumn of 2014 they will be the oldest buildings in the NHS still providing acute inpatient care.

Bed spacing in both buildings falls well below current standards, only just meeting Florence Nightingale's 1863 "*Notes on Hospitals*" and there is only one toilet per every four patients in these buildings. The ward layouts in the Barry and Jubilee buildings did not anticipate the greater need for privacy and dignity nor the increased levels of medical equipment which have become commonplace over the last 180 years.

There are only 10 single rooms (5% of the total) in these buildings.

- **Investment Objective 2:** As agreed through the *Best Care, Best Place* consultation (2004), transfer the Regional Centre for Neurosciences from Hurstwood Park (on the Princess Royal Hospital site in Haywards Heath) and expand its capacity, in line with the Sussex-wide *Tertiary Services Commissioning Strategy* (2008) and the ongoing commissioning intentions of NHS England as our commissioners for specialist services. This will allow patients from Sussex who currently have to travel to other centres (mainly in London) to be treated closer to where they live.

The existence of Hurstwood Park as the Regional Centre for Neurosciences is entirely accidental: the building was developed as the acute admissions ward for the mental health asylum which stood on the site until the 1990s. It was never used as such. It was completed in 1939 and used immediately for the National Hospitals for Neurology and Neurosurgery (Queen's Square, London) which relocated to Haywards Heath during World War II: not everyone moved back to London after the War and the building has continued as a neurosciences unit since then.

However, the facilities suffer from the same issues as the Barry and Jubilee buildings at the RSCH – outdated, cramped and beyond their useful and economic lives.

- **Investment Objective 3:** Develop and expand non-surgical cancer services, in line with the former Sussex Cancer Network's *Service Delivery Plan* and the *Sussex Tertiary Services Commissioning Strategy*. This will allow patients across Sussex to receive radiotherapy and chemotherapy treatment closer to where they live and will enable our Sussex-wide services to continue to meet national waiting times standards.

At the moment, there are four linear accelerators for treatment of cancers in Sussex. The former Sussex Cancer Network identified the need to increase these as there was increasing evidence that patients were not electing to have treatment rather than travel into London. The capacity of radiotherapy needs to be increased across Sussex and the 3Ts programme provides half of the capacity required. The balance of the extra capacity and how this is delivered is outwith the scope of the 3Ts programme.

- **Investment Objective 4:** Continue to develop the Royal Sussex County Hospital as the Major Trauma Centre for Sussex and the South East, as set out in the NHS South East Coast strategy *Healthier People, Excellent Care* (2008) and in accordance with the NCEPOD Report *Trauma: Who Cares?* and the National Audit Office report into trauma care in the NHS *Major Trauma Care in England*, published in February 2010.

The Trust received designation as a Major Trauma Centre in April 2012, although the facilities put in place meet the absolute minimum standards. It will be challenging to expand these over time as this specialty develops. The 3Ts development also includes provision of a helipad so that Sussex and the associated catchment can accommodate virtually all of the major trauma which it is responsible for. The exception will be paediatric major trauma, which will continue to be taken into London, at least in the medium-term.

- **Investment Objective 5:** Develop teaching, training and research activities within the Trust, in partnership with the Brighton & Sussex Medical School and the Universities of Brighton and Sussex – again in line with the ongoing vision of high quality teaching and research supporting high quality care. This will magnify the radiated benefits for the whole of the NHS across the South East for the next 20 years and beyond, in terms of the benefits to patient care of the research undertaken and the quality of clinical staff trained locally.

1.1.9 The Trust has moved at pace to develop these proposals since the need is pressing – which is immediately obvious to any visitor to the Royal Sussex County Hospital, Hurstwood Park or the Sussex Cancer Centre.

1.1.10 Although the RSCH campus has seen significant developments over the last 40 years, much of the infrastructure and many of the patient facilities on the remaining half of the campus have been outgrown and do not provide modern standards of privacy and dignity. The Trust currently also does not have the capacity to treat all the patients in the region who require specialist tertiary care for neurological and neurosurgical conditions, nor for all the patients needing radiotherapy or chemotherapy for cancer.

1.1.11 The current situation cannot continue. This OBC sets out a bold programme for investment in services at BSUH that can be delivered at the pace required to meet the needs of the patients we serve. The Trust is seeking approval for the capital required for the delivery of this programme through public funding, which would mean that it could provide the majority of the development during 2019 and the remainder of the clinical facilities during 2022 with the completion of the whole programme during 2023.

- 1.1.12 This OBC sets out the details of the Trust's proposals for implementing this programme. The underlying principles set out in our original OBC of July 2009 remain extant and were reconfirmed by commissioners and NHS South of England in 2011. The OBC was refreshed and approved by NHS South of England in March 2012 with unanimous support from all NHS organisations across Sussex. The financial aspects of the OBC have been further refreshed and updated as at May 2013.
- 1.1.13 The development was granted Full Planning Consent by Brighton & Hove City in January 2012 and the decision notice was released in March 2012.
- 1.1.14 This Executive Summary sets out the key aspects of the scheme and considers them under the following headings:
- **Strategic Case** – how the proposals contained in this OBC fit strategically and tactically with national, regional and local priorities for the development of healthcare services;
 - **Financial Case** – how the proposals contained in the OBC demonstrate that the programme is affordable and sustainable within the local health economy in terms of both revenue and proposed capital cash flow;
 - **Economic Case** – how the proposed preferred option set out in the OBC demonstrably represents the most economically advantageous solution;
 - **Commercial Case** – how the proposed way forward (public funding) demonstrably has a sound commercial base and that there are appropriate ways of managing risk in the delivery of the programme;
 - **Project Management Case** – how the proposals contained in the OBC are demonstrably realistic, deliverable and achievable.

1.2 Strategic Case

1.2.1 Since the first iteration of the OBC, the architecture of the NHS has changed radically through the implementation of Health & Social Care Act 2012 and associated legislation. The Act aims to modernise the NHS by putting clinicians at the centre of commissioning, freeing up providers to innovate, empowering patients and providing a new focus to public health.

1.2.2 Despite these changes the 3Ts Programme remains completely aligned to national, regional and local priorities as summarised in the following table:

Figure 1.2 Key Strategy and Policy Drivers

Key Strategy & Policy Drivers	National	Regional	Local
1. General			
1.1 <i>Best Care, Best Place</i> (2004/5)			✓
1.2 <i>Building a Safer NHS for Patients</i> (2001)	✓		
1.3 Brighton & Hove City Council <i>Corporate Plan 2011-2015</i> (2011)			✓
1.4 <i>Compassion in Practice: Nursing, Midwifery & Care Staff – Our Vision & Strategy</i> (2012)	✓		
1.5 <i>Creating the City of Opportunities: a Sustainable Community Strategy for the City of Brighton & Hove</i> (2010)			✓
1.6 <i>Equity & Excellence: Liberating the NHS</i> (2010)	✓		
1.7 <i>Everyone Counts: Planning for Patients 2013/14</i>	✓		
1.8 Health & Social Care Act 2012	✓		
1.9 <i>High Quality Care for All: NHS Next Stage Review Final Report</i> (2008)	✓		
1.10 <i>Liberating the NHS: Developing the Healthcare Workforce – from Design to Delivery</i> (2012)	✓		
1.11 NHS Constitution 2013	✓		
1.12 NHS Operating Framework (2010/11, 2011/12, 2012/13)	✓		
1.13 <i>NHS Outcomes Framework 2013/14</i> (2012)	✓		
1.14 One Planet Living			✓
1.15 <i>Prescribed Specialised Services: Commissioning Intentions for 2013/14</i>	✓		
1.16 Public Health Outcomes Framework for England 2013-2016 (2012)	✓		
1.17 <i>Putting Patients First: the NHS England Business Plan for 2013/14-2015/16</i>	✓		
1.18 <i>Quality in the New Health System: Maintaining & Improving Quality from April 2013</i> (2013)	✓		
1.19 <i>Francis Report 2013</i>	✓	✓	✓
1.20 <i>Safety First</i> (2006)	✓		
1.21 <i>Sussex Tertiary Services Commissioning Strategy</i> (2008)			✓
1.22 <i>The Mandate 2013-2015: a Mandate from the Government to the NHS Commissioning Board</i> (2012)	✓		
1.23 <i>The Way Forward: Operational Delivery Networks</i>	✓		

Key Strategy & Policy Drivers		National	Regional	Local
1.24	<i>The Way Forward: Strategic Clinical Networks</i>	✓		
2.	Barry Building Replacement/Secondary Care	✓		
2.1	<i>Care and Compassion? Report of the Health Service Ombudsman on Ten Investigations into NHS Care for Older People (2011)</i>	✓		
2.1	<i>Delivering Dignity: Securing Dignity in Care for Older People in Hospitals and Care Homes (2012)</i>	✓		
	Stroke Care			
2.2	<i>National Stroke Strategy (2007)</i>	✓		
2.3	<i>Cardiovascular Disease Outcomes Strategy: Improving Outcomes for People with or at Risk of Cardiovascular Disease (2013)</i>	✓		
2.4	<i>Reducing Brain Damage: Faster Access to Better Stroke Care (2005)</i>	✓		
	Dementia			
2.5	<i>Improving Dementia Services in England (2010)</i>	✓		
2.6	<i>Living Well with Dementia: a National Dementia Strategy (2009)</i>	✓		
2.7	<i>Prime Minister's Challenge on Dementia: Delivering Major Improvements in Dementia Care & Research by 2015 (2012)</i>	✓		
	Clinical Infection Service			
2.7	<i>Better Prevention, Better Services, Better Sexual Health: the National Strategy for Sexual Health & HIV (2001)</i>	✓		
2.8	<i>A Framework for Sexual Health Improvement in England (2013)</i>	✓		
2.9	<i>Standards for HIV Clinical Care (2007)</i>	✓		
3.	Regional Centre for Neurosciences			
3.1	<i>Safe Neurosurgery 2000 (1999)</i>	✓		
4.	Sussex Cancer Centre			
4.1	<i>Cancer Services Coming of Age: Learning from the Improving Cancer Treatment, Assessment and Support for Older People Project (2012)</i>	✓		
4.2	<i>Chemotherapy Services in England: Ensuring Safety & Quality (2009)</i>	✓		
4.3	<i>Delivering the Cancer Reform Strategy (2010, 2011)</i>	✓		
4.4	<i>For Better, for Worse? A Review of the Care of Patients who Died within 30 Days of Receiving Systemic Anti-Cancer Therapy (2008)</i>	✓		
4.5	<i>Improving Outcomes: a Strategy for Cancer (2011)</i>	✓		
4.6	<i>Radiotherapy Services in England (2012)</i>	✓		
4.7	<i>Radiotherapy: Developing a World Class Service for England (2007)</i>	✓		
4.8	<i>Review of Cancer Waiting Times Standards (2011)</i>	✓		
5.	Major Trauma Centre			
5.1	<i>Healthier People, Excellent Care (2008)</i>		✓	
5.2	<i>Major Trauma Care in England (2010)</i>	✓		
5.3	<i>Standards for Major Trauma Centres (2010)</i>		✓	

Key Strategy & Policy Drivers		National	Regional	Local
5.4	<i>Trauma: Who Cares? (2007)</i>	✓		
6. Teaching & Research				
6.1	<i>Innovation, Health & Wealth: Accelerating Adoption & Diffusion in the NHS (2011, 2012)</i>	✓		
6.2	<i>Strategy for UK Life Sciences (2011, 2012)</i>	✓		
6.3	<i>The Plan for Growth (2011)</i>	✓		

1.2.3 An overview of the close congruence between the 3Ts Programme and a selection of these strategic drivers is set out below:

National policy

1.2.4 An overview of the close congruence between the 3Ts Programme and a selection of these strategic drivers is set out below:

- **NHS Mandate 2013.** The Mandate is structured around the domains of the NHS outcomes framework as follows and is completely aligned with the 3Ts business objectives:
 - Preventing People from dying prematurely (relevant to Investment Objective 3 regarding cancer in improving access for cancer care and Objective 4 in the further development of the Major Trauma Centre);
 - Enhancing quality of life for people with long-term conditions (relevant to Investment Objective 1, replacing the Barry Building wards for those who are admitted to hospital, including dementia wards);
 - Helping people to recover from episodes of ill health or following injury (relevant to Investment Objectives 2 and 4 relating to the relocation and expansion of neurosciences and the development of the Major Trauma Centre);
 - Ensuring that people have a positive experience of care (relevant to all Investment Objectives);
 - Treating and caring for people in a safe environment and protecting them from avoidable harm (particularly relevant to Investment Objectives 1 and 2 in replacing outdated, very poor quality patient accommodation);
 - Freeing the NHS to innovate (relevant to Investment Objective 5 relating to teaching and research);
 - The broader role of the NHS in society and the economic importance of the NHS to society, which is relevant to the whole capital development, as this will provide opportunities for local employment during the construction period.

- **The NHS Operating Plan 2013** reasserted the need to provide high quality, locally accessible services yet signalled the need to provide services with appropriate critical mass. The Plan also outlined the productivity and quality challenge which this OBC refresh has met in the remodelled bed capacity figures and in the refreshed financial and affordability analyses.

The plan reaffirmed the importance of privacy and dignity:

- In paragraph 2.8, *“Caring for patients with dignity and humanity goes to the heart of the purpose of the NHS.....”*
- *In 4.16 “NHS trusts must continue to ensure that they provide a clean and safe environment that is fit for purpose, based on national best practice. A key factor in delivering such an environment is that backlog maintenance and upgrading work must be managed effectively, with an emphasis on eliminating any backlog maintenance that affects safety or the provision of high-quality healthcare. To support the elimination of mixed-sex accommodation, improve patients’ privacy and dignity, and provide increased isolation facilities for infection control, capital investment to provide additional single en-suite rooms needs to be considered as part of the capital planning process.”*
- **The NHS Constitution 2013** established the principles and values of the NHS in England. It sets out the right to which patients, public and staff are entitled, the pledges which the NHS is committed to achieve, together with responsibilities which the public, patients and staff owe to one another to ensure that the NHS operated fairly and effectively.’ Following consultation in 2013, the updated edition of the NHS Constitution includes a new pledge that patients admitted to hospital ‘will not have to share sleeping accommodation with patients of the opposite sex, except where appropriate’. This builds on the previous commitment to increase **Privacy and Dignity** as from 2010, hospitals have not been paid for treating patients who are accommodated in the same ward bed bay as a patient of the opposite sex. The 3Ts programme will provide 65% of its inpatient accommodation in single rooms – currently only around 5% of the services that form part of the programme are in single rooms.
- **Compassion in Practice 2013**, was produced just prior to the Francis report relating to care at Mid Staffordshire NHS Foundation Trust, and restated the importance of the “6Cs”: care, compassion, competence, communication, courage and commitment within the context of modern nursing. The document highlighted perceived failings in nursing care particularly for frail elderly patients who are frequently admitted, often suffering from dementia. It renewed calls for an increased focus on the quality of the patient experience, covering basics such as nutrition as well as requiring care staff to treat patients compassionately. 3Ts will provide vastly superior accommodation for frail elderly patients compared to the pre-Nightingale wards currently being employed.

- ***Innovation, Health & Wealth: Accelerating Adoption & Diffusion in the NHS (2011, 2012)***. This report highlighted the need to speed up the pace and spread of innovation across the NHS. The 3Ts teaching/research facilities and state of the art clinical accommodation will enable these requirement to be met. The 3Ts redevelopment will contribute to the IHW agenda by:
 - strengthening the Trust's Research & Development infrastructure;
 - strengthening the infrastructure for pre- and post-registration Learning & Development;
 - ensuring that the design reflects research evidence and best practice; and
 - ensuring that the investment objectives are evaluated through the Benefits Realisation framework and Post-Project Evaluation and can therefore be shared more widely.
- ***Improving Outcomes: A Strategy for 2011***, this document highlighted the importance of locally available services for patients with cancer, and described the projected increased demand on local services. ***Delivering the Cancer Reform Strategy (2010)***, and ***Chemotherapy Services in England: Ensuring Safety & Quality (2009)***, set out the requirements for improvements in cancer services which build on the ***Cancer Reform Strategy (2007)*** and include further requirements to reduce cancer inequalities, provide better treatment and deliver care in the most appropriate setting. The work of the clinical networks which include cancer networks have championed the centralisation of specialist services which 3Ts delivers. In order to maintain patient waiting times standards for radiotherapy and chemotherapy in the context of growing demand, as specified in ***Radiotherapy Services in England (2012)*** the 3Ts programme will provide expanded capacity within the Sussex Cancer Network to continue to meet waiting times standards and allow patients to be accommodated and treated on the RSCH campus rather than have to travel daily from neighbouring hospitals for treatment;
- ***Major Trauma Care in England 2010***, this reaffirmed the need to create trauma networks which cover defined geographical localities and provided additional support for the creation of the Trauma Service within 3Ts;
- ***High Quality Care for All***, (2008). This set out the vision for the further development of healthcare services in England and was the culmination of his review which recommended a clinically-led NHS with quality at the forefront. The report highlighted some key themes that are central to the 3Ts development:
 - the importance of patient safety and the need to reduce Hospital-acquired Infections; modern, fit for purpose accommodation using evidence-based design can play a strong role in achieving this;

- supporting the development of specialist centres – particularly for major trauma, heart attack and stroke care: the 3Ts proposals seek to develop better services for patients with stroke through the co-location of neurology and stroke inpatient services with good access to diagnostic imaging and treatment facilities. Transferring neurosurgery to the RSCH campus and improving key diagnostic and treatment facilities will enable the Trust to develop further as a Major Trauma Centre;
- providing care closer to home: the 3Ts programme will provide the necessary capacity for neurosurgery and cancer care, with appropriate imaging and treatment support to allow many patients who currently have to travel out of Sussex for treatment to have that treatment closer to where they live;
- ***Our Health, Our Care, Our Say***, published in 2006, recommended a shift in the location of care so that it is provided closer to where people live and work. Although the main focus of this White Paper was on enhancing primary and community care services, the principle of providing care closer to home was central. The 3Ts development provides the residents of Brighton & Hove, Sussex and the South East with extra capacity in specialist and tertiary care closer to where they live and will reduce the number of people who have to travel to other centres, mainly London, for this care;
- ***Trauma: Who Cares?*** Published in 2007 (but still extant) by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD). The report examined the benefits of providing a network of Trauma Centres to ensure that patients who have sustained multiple injuries receive more effective treatment with reduced mortality and long-term disability. The 3Ts programme will enable the Trust to develop further as a Major Trauma Centre at the hub of a Trauma Network for Sussex and the wider region. Key to this is the relocation of the Regional Centre for Neurosciences from Hurstwood Park and the further development of appropriate capacity and treatment facilities on the RSCH campus;
- ***Safe Neurosurgery***. Published in 2000 by the Society of British Neurosurgical Surgeons, this report is not national NHS policy but does represent a significant study by clinicians to ensure that standards of safety and quality are in place. The 3Ts programme provides facilities that meet these standards.

Regional

- 1.2.5 High level commissioning intentions were set out in the ***Framework for preparing The Operating Plan for NHS South of England 2012/13*** which was drafted by the former NHS South of England. Commissioning intentions for 2012/13 and 2013/14 are as stated in a description of “Sussex Together” which identifies common principles for how the NHS across Sussex can work more efficiently and effectively. This includes commissioning services that achieve:

- Management of patients outside hospital to reduce overall patient demand on acute care where possible in, particularly in emergency hospital admissions. The local health economy has set an 'audacious goal' of a 15% reduction in emergency admissions and A&E attendances and a reduction in the number of hospital readmissions within 30 days of discharge. This has been factored into the Trust's income and activity assumptions contained in the base Long Term Financial Model;
- Development of an ambulatory care model for emergency care for patients who do not require an acute hospital inpatient stay (as part of the above);
- More effective case management of patients with long-term conditions such as Chronic Obstructive Pulmonary Disorder (COPD);
- Further development of referral management approaches such as the Musculo-Skeletal Integrated Care and Treatment service;
- Managing patient care pathways for efficiency and productivity gains, such as:
 - Reduce delayed discharge and inpatient bed days;
 - Care closer to home and further development of community based clinics where appropriate;
 - An enhanced range and improved GP 'direct access' to diagnostic services;
 - Delivery of care in the most cost-effective setting, for example, through a move to outpatient and day case treatment for a range of procedures and treatments where this is clinically appropriate and in the best interests of the patient, their families and carers;
- Support for Sussex wide strategic commissioning decisions associated with the centralisation at BSUH of clinical services such as; pathology, paediatric inpatient care, primary angioplasty, stroke, trauma, vascular surgery and cancer care;
- Continued delivery of national standards defined in the NHS Operating Framework such as cancer and 18 week Referral to Treatment Times (RTT);
- Improved clinical outcomes and patient experience;
- Support for BSUH repatriating a range of specialist services from London such as Paediatrics, and;
- Establishing Brighton as the 24/7 Sussex Centre for Percutaneous Coronary Intervention.

1.2.6 As part of the development of the Sussex Together vision and commissioning intentions, a series of clinical summits were held in 2011/12. These were led by senior local clinicians in primary and secondary care working with senior managers, colleagues from the local authorities and Local Involvement Networks (LINKs).

- 1.2.7 The summits identified a number of areas where improved models which include working across organisational boundaries are planned to ensure the quality and efficiency of the NHS in Sussex. The key outputs of these summits are being embedded in commissioning plans.
- 1.2.8 The clinical summit members identified four areas of focus in the first instance, including services for the frail elderly and unscheduled (emergency care) as noted above.
- 1.2.9 The other regional strategies of relevance are:
- **Healthier People, Excellent Care** was the vision for services across NHS South East Coast published in 2008 at the same time as Lord Darzi's national framework. This also pledged that by 2010 all appropriate patients with trauma, heart attack and stroke should be treated in 24/7 specialist centres. It explicitly identified the need for a Major Trauma Centre in the South East: the 3Ts programme will develop this further;
 - **Tertiary Services Commissioning Strategy for Sussex**, published in 2008, set out the joint strategic framework for specialist services across Sussex and has been approved by the existing Sussex Primary Care Trusts. In particular, it identified the need for increased capacity for cancer services, the relocation and expansion of neurosciences and the development of trauma services; these are all core to the 3Ts development. The commissioning intentions in this strategy are fully aligned with the assumptions made by the Trust in developing the 3Ts proposals. The refreshed operational delivery networks are to be hosted by the area commissioning boards for Surrey and Sussex.

Local

- 1.2.10 Key local policies which have informed the development of the 3Ts Programme are:
- **NHS Brighton & Hove Strategic Commissioning Plan 2008-13** included the objective to extend public confidence in the NHS. One of the few areas where BSUH has scored consistently poorly in the National Patient Survey was in the quality of inpatient accommodation. NHS Brighton & Hove (the predecessor to the current Clinical Commissioning Group) was committed to the replacement of the Barry and Jubilee building wards with modern, fit for purpose accommodation that meets the public's expectations. This is a core element of the Business Case. This provision of modern, fit for purpose clinical accommodation for secondary care remains a key priority for the Brighton & Hove Clinical Commissioning Group;
 - **Best Care, Best Place** was a consultation undertaken in 2004 and approved in 2005 by the former Mid Sussex Primary Care Trust and BSUH. This reaffirmed the findings of previous reports into the need for the relocation of neurosciences which is a key part of the 3Ts proposals.

1.2.11 The 3Ts development will therefore meet urgent existing need, whilst providing the capacity to meet evolving health needs. In order to do this, the Trust needs to increase configure capacity across the two campuses as set out in the table below:

Figure 1.3 Bed capacity of the Trust – by Site (now and proposed)

Site	Physical Beds – Demand 2012/13	Bed Demand 2021/22	Physical Beds Available 2021/22	Bed Demand 2027/28	Physical Beds Available 2027/28
RSCH 3Ts Specialties (excluding neurosciences)	269	235	264	249	264
RSCH Other Specialties	262	246	283	257	283
RSCH Decant /Escalation	0	30	0	30	0
RSCH Neurosciences	0	61	87	64	87
Sub-Total RSCH	531	572	634	600	634
PRH	204	174	206	181	206
PRH (Hurstwood Park)	44	0	0	0	0
PRH Decant/Escalation	0	30	0	25	0
Sub-Total PRH	248	204	206	206	206
TOTALS	779	776	840	806	840

Note: the bed model also includes some reclassification of medical beds to specialty beds. The 3Ts development also includes shell space for 10 critical care beds which are included in the bed numbers above to allow for future expansion if required. The modelling also allows an escalation ward for additional pressures or planned preventative maintenance to be provided at both the PRH and RSCH – this is currently not available at either site. The bed modelling has been extended to five years beyond the completion of the development in line with Department of Health guidance. Bed occupancy has been modelled at an average of 86% which good practice dictates is an appropriate level to manage planned and emergency care. This also excludes dedicated Maternity and Paediatrics beds at RSCH/RACH and PRH, the SOTC at Haywards Heath, Sussex Rehabilitation Centre and the Sussex Eye Hospital. The bed modelling also does not take account of allocating beds in particular specialties into whole numbers of wards (see below).

1.2.12 This is broken down by specialty in the table below:

Figure 1.4 Bed capacity of the Trust – by Specialty (now and proposed)

Specialty	Physical Beds - Demand 2012/13	Bed Demand 2021/22	Physical Beds Available 2021/22	Bed Demand 2027/28	Physical Beds Available 2027/28
General Medicine/Diabetes/Respiratory/Endocrine	121	99	152	103	152
Elderly Care	227	179	145	185	145
Decant/Escalation	0	60		55	
Haemaology/Oncology	25	37	45	44	45
HIV/ID	12	14	24	14	24
Critical Care (3Ts)	28	31	30	32	30
Neurology	11	21	30	22	30
Neurosurgery	27	30	42	32	42
Neuro ITU	6	10	15	11	15
A&E Observation	8	4	13	4	13
Cardiac Services	60	71	66	74	66
Renal Medicine	27	32	27	33	27
Trauma & Orthopaedics	66	36	82	37	82
Surgery	155	148	163	154	163
Critical Care PRH	6	6	6	7	6
TOTAL	779	776	840	804	840

Notes: the same general notes apply to this table as to Figure 1.3. It should be noted that where some specialties require beds in excess of the physical numbers on a designated ward, depending upon the number required, patients may be placed on the ward of a different specialty but nursed according to the primary diagnosis, or may use an entire ward but not occupy all beds on that ward.

Strategic Case – Conclusions

- The 3Ts development responds directly to the future strategic direction of the NHS in national, regional and local terms by providing services and facilities that will support high quality patient care.
- The 3Ts development responds to the local need for providing modern, fit for purpose inpatient and diagnostic facilities for the people of Brighton & Hove.
- The 3Ts development responds to the regional strategy for developing specialist centres and is now designated a Major Trauma Centre but further development of the facilities is required for this.
- The 3Ts development responds directly to the future plans of the commissioners across Sussex in providing capacity for local people to receive cancer, neurosciences and major trauma care locally.
- The 3Ts development will provide the opportunity to further develop facilities for teaching and research and magnify the radiated benefits of this for the whole of the NHS across the South East for the next 20 years and beyond.

1.3 Economic Case

Option Identification

1.3.1 Key stakeholders from the Trust, partners across the local health economy and patient representatives identified a long list of six options (five main options plus one 'do minimum') for achieving the programme's objectives. This list was then shortened through an interactive workshop to five by discounting those options that were felt to be either undeliverable or did not properly and fully address the objectives of the programme. The workshop included a presentation on the key features of each option, and attendees then scored each option against the identified benefit criteria:

- Strategic fit;
- Clinical outcomes;
- Appropriate facilities and facilities management;
- Access to services;
- Teaching, training and research;
- Use of resources;
- Operational management;
- Development and implementation.

Outline of the Shortlisted Options

1.3.2 An outline of the shortlisted options is set out below:

Figure 1.5 Outline of Shortlisted Options (per original OBC)



Note: these were the high level implementation plans identified at the shortlisting workshop.

- ‘Do Minimum A’ would involve undertaking refurbishment and extensions of existing facilities but would leave the Regional Centre for Neurosciences at Hurstwood Park (with refurbishment and extension);
- ‘Do Minimum B’ would involve the same as ‘Do Minimum A’ but would relocate the Regional Centre for Neurosciences from Hurstwood Park to the RSCH campus. This was added at the workshop to ensure that there was a “do minimum” option which could achieve the same broad outputs as the other options considered. This would illustrate the difference in cost and benefits between outputs delivered.

1.3.3 A full cost benefit analysis was undertaken on the remaining options. In order to fully determine the impact of the preferred option, the shortlist contained the ‘baseline’ comparator options – Do Minimum A and Do Minimum B.

Non-Financial Benefits Appraisal of Shortlisted Options

1.3.4 A further workshop was held in February 2009 with over 40 attendees from the Trust, local partners and patient representatives. The group undertook an exercise to weight each of the benefit criteria and then score the options against them, with a maximum available score of 1,000. The results of this exercise are summarised in the table below:

Figure 1.6 Non-Financial Option Appraisal Results

Option	Weighted Score	Rank
1	827.7	1
3	683.6	2
5	622.3	3
Do Minimum A	111.1	5
Do Minimum B	181.7	4

1.3.5 The Department of Health's 'Additional value for money requirement for NHS major new build schemes' (December 2010) sets out the requirements for non-financial benefits to be measured and to be given a monetary value. These are known as "monetised benefits" in economic terms.

1.3.6 Following a series of meetings and a workshop held in June 2011 a set of Net Present Values (NPVs) for these monetised benefits were calculated and the results of this exercise are summarised in the table below. The NPV measures a series of cashflows and benefits which have been given a monetary value and discounts them to provide a single valuation of all the transactions in today's monetary terms. The highest NPV being the highest ranked.

1.3.6 Where options have different investment periods then the Equivalent Annual Cost (EAC) or Equivalent Annual Value (EAV) is used to compare options on equal terms. The same logic applies in that the greater the EAV the greater the future benefit received. Option 1 has the highest EAV and is therefore considered the most economically advantageous option.

Figure 1.7 Monetisation of Non-Financial Benefits Results

Option	Net Present Value (NPV)	Rank	Equivalent Annual Value (EAV)	Rank
1	-17,440	1	-631.2	1
3	-16,089	4	-584.6	4
5	-16,461	3	-595.8	3
Do Minimum A	-9,245	6	-338.8	6
Do Minimum B	-9,281	5	-340.1	5
PFI (Partial)	-16,863	2	-603.6	2

Notes: All costs above are in £'millions

Capital Costs of Shortlisted Options

1.3.8 The initial capital costs of both construction and equipment for each shortlisted option have been prepared by the Trust's technical advisors and have been profiled across the relevant construction period. All options have been costed according to NHS standards and methodologies.

Figure 1.8 Capital Costs of Shortlisted Options

Item	Option 1	Option 3	Option 5	Do Min A	Do Min B
Works cost	207,665	189,910	187,556	74,774	86,372
Fees	40,182	32,532	33,760	13,459	15,547
Non-Works	28,102	16,016	19,516	39,732	32,425
Equipment	29,700	29,000	29,000	28,628	30,421
Contingencies	17,650	22,596	22,483	9,175	10,543
Optimism Bias	6,852	63,615	63,331	29,693	33,555
Inflation adjustments	28,752	48,976	47,860	18,817	20,314
Sub-Total	358,904	402,644	403,506	214,278	229,178
VAT	61,210	74,022	73,949	40,164	42,726
Total	420,114	476,666	477,455	254,442	271,904

Notes: All costs above are in £'000 and are calculated using the prevailing BIS PUBSEC, which is now used for expressing all public sector construction costs in lieu of MIPS. This is currently 173 for projects of this nature. All costs shown are presented as per the OB1 forms that are required to be presented in the OBC. The inflation adjustment provides a forward look for construction price inflation to provide a true cost rather than a cost at 2010/11 prices. VAT has been calculated at 20% on the appropriate cost lines (VAT is fully reclaimable on professional fees and the design for Option 1 is at an appropriate level which allows Trust to recognise VAT abatement on Car Parking areas). Optimism Bias and Contingencies recognise level of certainty in Option 1 design which has now been developed to the point of being granted a Full Planning Consent.

1.3.9 The difference in Optimism Bias highlights how cost certainty develops as the design becomes more certain. The Preferred option (Option 1) has been developed through an investment of £26.45m which is reflected in the 'sunk costs' shown in Figure 1.19. The other options have obviously not been developed to this same level of design which explains why the Optimism Bias is higher in those options. The following table compares the original OBC from July 2009 with the current position for the Preferred option.

Figure 1.9 Capital Costs of Preferred Option (Option 1)

Cost Type	Current position	Original OBC	Change
Works cost	207,665	194,467	13,198
Fees	40,182	25,189	14,993
Non-Works	28,102	21,652	6,450
Equipment	29,700	29,000	700
Contingencies	17,650	25,217	-7,567
Optimism Bias	6,852	38,152	-31,300
Inflation adjustments	28,752	27,742	1,010
Sub-Total	358,904	361,419	-2,515
VAT	61,210	58,714	2,496
Total	420,114	420,133	-19

Notes: All costs above are in £'000.

1.3.10 As the design of the preferred option had to be developed to a certain standard in order to meet the requirements of Planning and obtain the appropriate Planning Consent, the design is much more certain than the Original OBC in July 2009.

1.3.11 Optimism Bias will naturally reduce as the design becomes more certain and as costs become embedded within Cost Types. As an example Works Cost develops as materials, quantities and labour requirements become clearer. Also inflation for the first two years becomes embedded in Works Cost and other headings. In a similar manner Contingencies will change and should reduce as design risk is eradicated.

1.3.12 The Preferred Option has also changed from the original OBC :

- on Non-Works, where the Decant solution has developed;
- on Fees, where it has been recognised that more Trust side costs could be capitalised;
- on VAT there have various changes in underlying rate since 2009 and the current position recognises a VAT abatement in respect of car parking.

1.3.13 PFI Capital Costs have also been estimated using the Option 1 as a base and uplifting relevant costs by 4% in line with Department of Health's guidance and incorporating Trust-side professional and in-house fees. It is assumed that public funding would still be available for decant implementation, design and Stage 1 enabling and therefore these elements have not been uplifted. This shadow PFI cost totals £441m in capital terms.

1.3.14 The following tables summarise the results of the Cost:Benefit Analysis that collates the economic and benefits appraisals of the shortlisted options to identify an overall preferred option. Estimates of the benefits under a PFI solution have been made for a Partial Indexed contract (where elements of the payment to the private sector are increased each year in line with the Retail Price Index and others at actual cost increases). A Partial Indexed contract is common in other areas of the public sector, but until recently, NHS projects were let on the basis that the entire payment would increase annually by RPI.

Figure 1.10 Option Appraisal Summary (Traditional Method NPC)

Option	NPC	Benefits Appraisal	NPC per Benefit Point	Rank
Option 1	15,722	827.7	19.00	1
Option 3	15,710	683.6	22.98	3
Option 5	15,770	622.3	25.34	4
Do Minimum A	15,528	111.1	139.77	6
Do Minimum B	15,544	181.7	85.55	5
PFI (Partial)	15,939	711.2	22.41	2

Note: NPC = net present cost. All NPC values are in £'millions.

Figure 1.11 Option Appraisal Summary (Traditional Method EAC)

Option	EAC	Benefits Appraisal	EAC per Benefit Point	Rank
Option 1	569.1	827.7	0.69	1
Option 3	570.9	683.6	0.84	3
Option 5	570.8	622.3	0.92	4
Do Minimum A	569.0	111.1	5.12	6
Do Minimum B	569.6	181.7	3.13	5
PFI (Partial)	570.5	711.2	0.80	2

Note: EAC = equivalent annual cost. All EAC values are in £'millions.

1.3.15 The analysis also examines the impact of introducing the monetisation of non-financial benefits to explore the wider economic impact of each option and how this affects the cost:benefit analysis. The NPV and EAC using this methodology is set out in the tables below:

Figure 1.12 Option Appraisal Summary (Monetisation Method NPC)

Option	NPC	NPV of Benefits	Net Result NPC/(NPV)	Rank
Option 1	15,722	-17,440	-1,717	1
Option 3	15,710	-16,089	-378	4
Option 5	15,770	-16,461	-691	3
Do Minimum A	15,528	-9,245	6,283	6
Do Minimum B	15,544	-9,281	6,262	5
PFI (Partial)	15,939	-16,863	-924	2

Note: NPV = net present value. All NPC & NPV values are in £'millions.

Figure 1.13 Option Appraisal Summary (Monetisation Method EAC)

Option	EAC	EAV of Benefits	Net Result EAC/(EAV)	Rank
Option 1	569.1	-631.2	-62.2	1
Option 3	570.9	-584.6	-13.7	4
Option 5	570.8	-595.8	-25.0	3
Do Minimum A	569.0	-338.8	230.2	6
Do Minimum B	569.6	-340.1	229.5	5
PFI (Partial)	570.5	-603.6	-33.1	2

Note: EAC = equivalent annual cost. EAV = equivalent annual value. All EAC and EAV values are in £'millions. Due to the sign convention used, the higher the negative number, the better the option in economic terms.

1.3.16 In the tables above if the Net Result is positive then it is a Net Present Cost (NPC) or an Equivalent Annual Cost (EAC) and this would suggest that the long term costs are greater than the benefits received. The higher the Net Present Value (NPV) or Equivalent Annual Value (EAV) the greater the future benefit received. NPVs and EAVs are then ranked from highest to lowest. Option 1 has the highest NPV and EAV and is therefore considered the most economically advantageous option.

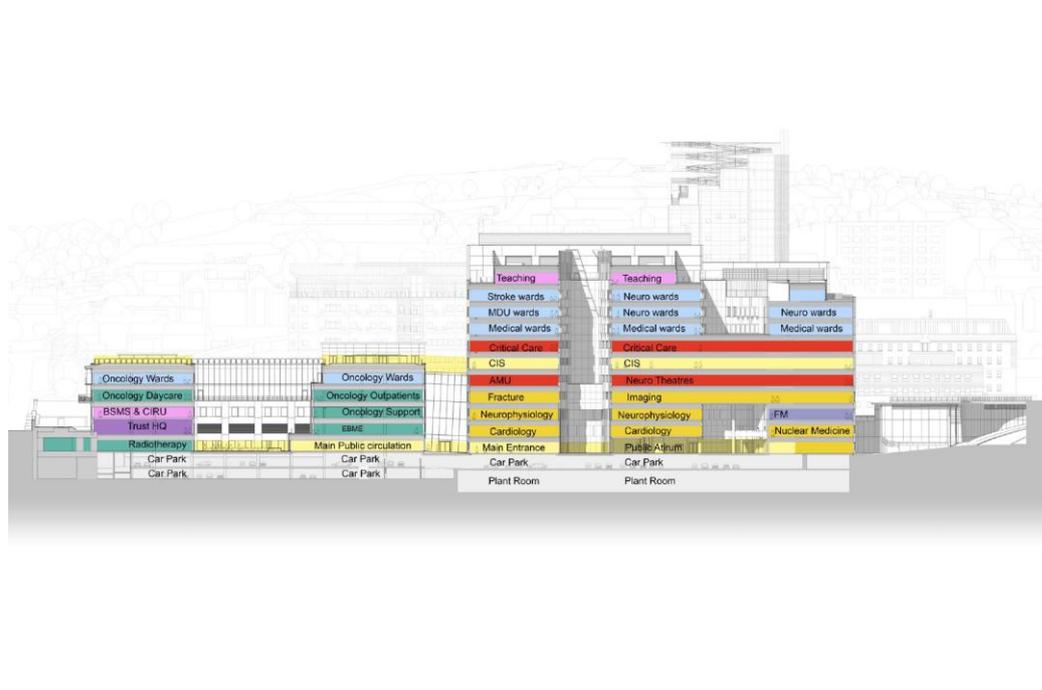
1.3.17 Each option has a different construction period and therefore the Equivalent Annual Cost/Value tables are a better guide for comparing value for money.

1.3.18 As can be seen from the tables above, the preferred option is Option 1 since it delivers the benefits required for the programme at a lower cost than the other options. This ranking is maintained even after risk adjustment and sensitivity testing.

The Preferred Option

1.3.19 Option 1, provides a three-stage solution to the Trust's investment objectives. The new facilities will be configured as shown in the schematic below. Stage 1 is the taller building on the right, containing medical, elderly, stroke, trauma and clinical infection wards, neurosciences, imaging etc and stage 2 containing the cancer centre and offices, plus Medical School Facilities. Stage 3 includes works to deliver a bespoke loading bay and completes site demolitions.

Figure 1.14 Section of Option 1



1.3.16 The 3Ts development encompasses:

- 361 inpatient beds (with some programmed investigation days beds for neurology), with 65% of the inpatient ward accommodation being provided in single rooms with en-suite WCs, assuming an average occupancy of 86% (with differential rates assumed between emergency and elective admissions). The overwhelming majority of patient rooms will have sea views (there are only 5 which do not);
- The ratio of toilets to patients, reduces dramatically from one toilet per 4 patients to one toilet per 1.7 patients;

- Circa 77,000m² of built space (gross internal floor area) in 2,514 rooms – this includes primary circulation space (between departments), mechanical and electrical engineering plant space, the helipad and the lift tower to the helipad. It excludes the underground car park;
- A helipad to be constructed on the existing Thomas Kemp Tower to allow the most seriously injured patient to be brought directly;
- 312 additional car parking spaces to be provided underneath the development (a substantial increase over the existing 508 spaces) which will be dedicated for patient and visitor use;
- Retail opportunities in the ground floor of Stages 1 and 2 of the development and on the sixth floor of Stage 1;
- Flexibility to meet future changes in health service provision.

Economic Case – Conclusions

- The Trust has undertaken a robust process of option identification and analysis;
- In line with the Department of Health's 'Additional value for money requirement for NHS major new build schemes' (December 2010) the Trust has undertaken an exercise to measure non-financial benefits and give them a monetary value. The results of this exercise have been combined with outputs of the Generic Economic Model and the option with the highest combined Net Present Value and Equivalent Annual Value, and therefore provides the best value for money, was Option 1;
- The Trust has an analysis to test the sensitivity of the preferred option to a series of varying cost assumptions. The Trust has also carried out a switching point analysis to determine what cost or benefit changes would need to occur to change the preferred option to demonstrate that the appraisal is robust;
- Option 1 has been selected as the preferred option since it provides the most economically advantageous solution to meeting the investment objectives of the 3Ts programme.

1.4 **Financial Case**

- 1.4.1 The OBC demonstrates that the proposals for the development of the 3Ts programme are affordable to the Trust and to the local health economy.
- 1.4.2 As part of the shared governance of the programme as a whole and the strong partnership working across the local health community, the affordability of these proposals has been tested by the Local Health Economy Directors of Finance Group, which included the Directors of Finance of the Brighton & Hove and Sussex PCTs as well as BSUH and a representative from the former NHS South of England. The affordability has been tested robustly at all approval points from 2009 to 2012.
- 1.4.3 In 2009/10 the group commissioned external support from 2020 Delivery (an independent consultancy that also assisted in the preparation of the *Sussex Tertiary Services Commissioning Strategy*) to provide assurance that commissioning strategies and the Trust's activity and planning assumptions are aligned. Assurance was also provided that the financial projections between commissioners and BSUH are aligned and are in accordance with PCTs' Medium Term Financial Plans. These assumptions were revalidated by NHS South of England as part of its approval of the OBC in March 2012.
- 1.4.4 This process demonstrated that the activity and financial plans are coterminous and therefore supported the assessment in the OBC that the 3T plans are affordable and sustainable.
- 1.4.5 The analysis that follows looks at the overall affordability of the development under public funding and if it were funded through the Private Finance Initiative (PFI). In March 2012, as an addendum to the original OBC, the Trust added Prudential Borrowings (capital investment loans) to the funding scenarios.
- 1.4.6 The financial and affordability analysis has been tested at each iteration and approval point of the OBC – in 2009, 2011 and 2012.

Income and Expenditure Summary – Assuming Public Funding

- 1.4.7 The figure below summarises the revenue position and identifies the key movements from the base year of 2013/14. This takes into account the changes in activity that result from commissioner plans, the expected general growth in activity that has been agreed plus the repatriation of activity (neurosciences and cancer) from other providers. It is important to note therefore that since the proposal is to redirect patient activity within the NHS, the associated costs are already *within* the commissioners' resource plans albeit at a higher Market Force Factor (BSUH's MFF is 7.44%). The table below also assumes that public capital funding is available for the development.

Figure 1.15 Key Revenue Movements from 2013/14 (assumes public capital funding)

	2013/14	2014/15	2015/16	2020/21	2021/22
Total Income	493.5	494.8	499.7	554.5	569.1
Total Operating Expenditure	-453.5	-454.3	-455.0	-497.1	-505.4
- of which CIPs	31.1	32.3	24.1	26.5	28.2
EBITDA	40.0	40.5	44.7	57.4	63.7
Depreciation/P&L on disposal	-21.7	-23.8	-25.3	-27.6	-29.1
Interest Payable / (Receivable)	-3.4	-3.6	-3.5	-3.4	-3.3
PDC Dividend	-7.1	-7.6	-10.1	-19.5	-20.2
Surplus / (Deficit) before impairments	7.8	5.5	5.8	6.9	11.1

Note: all figures are in £millions. Some figures may not exactly add in the table due to rounding. This table excludes the effects of impairments but includes transitional costs.

P&L = profit and loss; PDC = Public Capital Dividend; EBITDA = Earnings (surplus) before Interest is paid, tax deducted etc.

- 1.4.8 The anticipated change to income received from each commissioner for the period to 2021/22 (the planning period included in the Trust's Long Term Financial Model and the year of the opening of the second phase of the new hospital) based on the activity, performance and other assumptions identified above is shown in the figure below. These indicative numbers are shown in more detail in **Appendix 10A**.

Figure 1.16 income change in terms of 2012/13 prices

Commissioner	2013/14 Forecast	2021/22 Forecast	Income Change	% Income Change
NHS Brighton and Hove CCG	163.0	177.8	14.9	9.1%
NHS Coastal West Sussex CCG	15.7	17.2	1.4	9.2%
NHS Crawley CCG	3.6	3.9	0.3	9.2%
NHS Eastbourne, Hailsham and Seaford CCG	8.0	8.8	0.7	9.2%
NHS Hastings and Rother CCG	3.8	4.1	0.3	9.2%
NHS High Weald Lewes Havens CCG	49.9	54.5	4.6	9.2%
NHS Horsham and Mid Sussex CCG	71.1	77.6	6.5	9.2%
Surrey based CCGs	0.4	0.4	0.0	9.2%
Non contracted activity	2.3	2.6	0.3	11.5%
National Commissioning Board	99.3	159.6	60.3	60.7%
Total	417.1	506.5	89.4	21.4%

Note: all figures shown are in £'millions.

- 1.4.9 Of the 21.4% change between 2013/14 and 2021/22, 1.9% (£7.9m) relates to 3Ts repatriation of specialist activity including Radiotherapy. Underlying growth in demand for services of between 0.5% and 1% pa is assumed from the opening of Stage 1 in 2018/19, with CCG Demand Management schemes suppressing growth across the period.
- 1.4.10 PBR Exclusions including high cost drugs are effectively a pass through cost and account for 13.2% of the Trust's total income by 2021/22 (9.7% in 2013/14).

- 1.4.11 High growth areas eg HIV, Cancer and Renal, explain the balance of growth in period, with modelling for the next three years validated via discussions with clinical divisions as part of the ongoing clinical strategy development (after this period, the model includes only generic activity growth for these areas). The National Commissioning Board growth of 60.7% relates to Specialised Services and is therefore not allocated to CCGs.
- 1.4.12 The table below shows the income deflated to real price levels which reflects the Trust's Long Term Financial Model tariff assumptions agreed by the Trust as part of the FT application process.

Figure 1.17 Income inflated/(deflated) to nominal prices

Commissioner	2013/14 Forecast	2021/22 Forecast	Income Change	% Income Change
NHS Brighton and Hove CCG	160.5	170.6	10.1	6.3%
NHS Coastal West Sussex CCG	15.5	16.5	1.0	6.3%
NHS Crawley CCG	3.5	3.7	0.2	6.3%
NHS Eastbourne, Hailsham and Seaford CCG	7.9	8.4	0.5	6.3%
NHS Hastings and Rother CCG	3.7	3.9	0.2	6.3%
NHS High Weald Lewes Havens CCG	49.1	52.2	3.1	6.3%
NHS Horsham and Mid Sussex CCG	70.0	74.5	4.4	6.3%
Surrey based CCGs	0.4	0.4	0.0	6.3%
Non contracted activity	2.3	2.5	0.2	8.6%
National Commissioning Board	97.7	153.0	55.3	56.6%
Total	410.6	485.8	75.2	18.3%

Note: all figures shown are in £'millions.

- 1.4.13 The repatriation numbers from opening of the first phase in 2018/19 are included within the NHS England specialist commissioning figures. This activity formed part of the tertiary commissioning strategy which was agreed by the local PCTs and transitioned to the CCGs and NHS England.

Overall Affordability – Assuming Public Funding

- 1.4.14 The key issue that affects the affordability of the programme is whether the cost of undertaking the additional work plus the ongoing costs generated by a capital development of £420.1 million are matched by the additional income that would be expected to accrue from this activity. The table below shows the financial impact on the Trust in the year after completion of the development (2021/22) compared to a Do Nothing scenario.

Figure 1.18 Change in scenarios 2021/22 (assumes public capital funding)

2021/22 Forecast Outturn	Do Nothing	Publicly funded	Change
Total Income	536.5	569.1	32.6
Total Operating Expenditure	-489.9	-505.4	-15.5
- of which CIPs	29.9	28.2	-1.8
EBITDA	46.6	63.7	17.1
Depreciation/Impairment/P&L on disposal	-24.5	-29.1	-4.6
Interest Payable / (Receivable)	-3.3	-3.3	0.0
PDC Dividend	-7.7	-20.2	-12.5
Surplus / (Deficit)	11.1	11.1	0.0

Note: all figures shown are in £'millions.

1.4.15 This demonstrates that the development as a whole is affordable. The cash-releasing efficiency savings required above a “Do Nothing” scenario total £14.6 million across the 10 year period. Most of these savings would be needed to meet asset-driven costs in advance of any building opening. This accounting difference gives PFI schemes a distinct short term advantage as the Special Purpose Vehicle would capitalise the cost. Transitional Support of £34.3m helps deliver the scheme and this includes costs which cannot be capitalised by the Trust.

1.4.16 The Trust also modelled various Prudential Borrowings (PB) scenarios which demonstrated that borrowing up to £467m did not breach Tier 2 metrics in the LTFM, but 100% PB was not affordable as the repayment of loans left the Trust with liquidity problems. However, using the Tier 1 available loans of £32.5m (this is net of existing commitments) with Public Dividend Capital (PDC) support, meant the Trust was in a similar position to a fully funded PDC scheme.

Capital Cash Flow of the Preferred Option – Assuming Public Funding

1.4.17 The capital cash flow of the preferred option is shown below for each year and for each stage of the development :

Figure 1.19 Capital Cash Flow of Preferred Option Breakdown by year

	Total	Stage 1 Decants	Stage 1 Demolitions & Enabling	Stage 1 Build	Stage 2 Demolitions & Enabling	Stage 2 Build	Stage 3 Demolitions & Enabling	Stage 3 Build
Sunk costs to 2012/13	26.45	2.39	24.06					
2013/14	29.09	22.07	7.02					
2014/15	28.31	9.22	18.65	9.66				
2015/16	89.47			89.47				
2016/17	75.15			75.15				
2017/18	36.10			26.88				
2018/19	32.55				13.48	19.07		
2019/20	45.55					45.55		
2020/21	41.65					41.65		
2021/22	12.43					12.43		
2022/23	3.36						2.53	0.83
Total	420.11	33.68	49.73	201.16	13.48	118.70	2.53	0.83

Note: all figures shown are in £'millions and all costs include optimism bias, equipment, contingencies, inflation to out-turn and VAT. This excludes the cost of the Brighton & Sussex Medical School facility and any private patient development.

Income and Expenditure Summary – Assuming Funding through PFI

1.4.18 The figure below summarises the revenue position and identifies the key movements from the base year of 2013/14. This takes into account changes in activity that result from commissioner plans and the expected general growth in activity that has been agreed plus the repatriation of activity (neurosciences and cancer) from other providers. As identified above, it is important to note that since the proposal is to redirect patient activity within the NHS, the associated costs are already within commissioners' resource plans.

Figure 1.20 Key Revenue Movements from 2013/14 (assumes capital funding through PFI)

	2013/14	2014/15	2015/16	2020/21	2021/22
Total Income	491.9	493.9	499.6	543.6	547.1
Total Operating Expenditure	-451.9	-453.6	-457.1	-481.9	-473.3
- of which CIPs	33.2	32.0	20.1	59.9	41.8
EBITDA	40.0	40.3	42.5	61.7	73.8
Depreciation/P&L on disposal	-21.7	-23.9	-25.3	-27.5	-28.2
Interest Payable / (Receivable)	-3.4	-3.6	-3.5	-3.0	-1.4
Unitary Payment	0.0	0.0	0.0	-15.7	-24.7
PDC Dividend	-7.1	-7.3	-7.9	-8.6	-8.4
Surplus / (Deficit) before impairments	7.8	5.5	5.8	6.9	11.1

Note: all figures are in £millions. Some figures may not exactly add in the table due to rounding. This table excludes the effects of impairments but includes transitional costs.

P&L = profit and loss; PDC = Public Capital Dividend; EBITDA = Earnings (surplus) before Interest is paid, tax deducted etc. The Unitary Payment shown relates to the element relating to the funding of the asset. The operational costs associated with a PFI are within the total operating expenditure line.

Overall Affordability – Assuming Funding through PFI

1.4.19 The Trust has calculated the likely range of values for a Unitary Payment to a PFI provider for the development. The Trust considered the state of the market in 2004/5 when many PFI transactions were reaching financial close and the state of the markets in 2011. For mid 2000s funding terms, the PFI payment would be £24.1m per annum (including hard FM only) or £30.9m per annum in today's funding market conditions assuming a contract based on Partial Indexation. For the purposes of examining affordability in the Business Case, the Trust has used IFRS Accounting data supplied by Ernst & Young.

1.4.20 The table below shows the financial impact on the Trust in the first full year after completion of the development (2021/22) compared to a Do Nothing scenario.

Figure 1.21 Change in scenarios 2021/22 (assumes PFI funding)

2021/22 Forecast Outturn	Do Nothing	PFI funded	Change
Total Income	536.5	547.1	10.6
Total Operating Expenditure	-489.9	-473.3	16.6
- of which CIPs	29.9	41.8	11.9
EBITDA	46.6	73.8	27.2
Depreciation/Impairment/P&L on disposal	-24.5	-28.2	-3.7
Interest Payable / (Receivable)	-3.3	-1.4	1.9
Unitary Payment - Funding & Depreciation Costs	0.0	-24.7	-24.7
PDC Dividend	-7.7	-8.4	-0.7
Surplus / (Deficit)	11.1	11.1	0.0

1.4.21 Decant, Design and Enabling works for Stage 1 of the development are not part of the PFI Unitary Payment and it is assumed that Public Dividend Capital would be used to fund these elements of the scheme (in line with other major NHS projects).

1.4.22 In the 10 year period modelled with the Long Term Financial Model the above appears to demonstrate that the development as a whole is affordable as a Surplus is delivered. However, for all modelling the same Surpluses have been used so that changes are reflected in the change to savings plans. A PFI scheme would require cash-releasing efficiency savings above a "Do Nothing" scenario of £42.4 million across the 10 year period, and at this point the buildings would be incomplete. Transitional Support would also increase to £41.6 million to include Trust side financial advice and legal fees.

1.4.23 Due to the extended programme the full Unitary Charge is not reflected in the 2021/22 figures and this would add a further £3.8m from 2024/25. This would add additional savings above the current level in order to meet the increased EBITDA requirement (14% at 2024/25).

Cost of Activity Changes – Public Funding and PFI

1.4.24 A careful assessment has been undertaken of the impact of the planned activity changes on Trust revenue expenditure. A cumulative cost of £20.9 million has been identified for activity changes from opening of Stage 1 buildings to the end of 2021/22 financial year. This covers the costs of general growth and of specific service change, but excludes impact of efficiency savings.

Transitional Costs – Public Funding and PFI

1.4.25 Transitional costs are non-recurrent and relate to the delivery of the programme itself rather than its ongoing consequences. These include decommissioning the replaced facilities, commissioning the new buildings, double running and decanting.

1.4.26 The Trust has calculated transitional costs of £34.3m over the course of the programme for a publicly funded scheme. These have been included in the Affordability and the source of this transitional funding has been agreed in principle with NHS England Area Team (AT).

1.4.21 At time of compiling the Trust's Integrated Business Plan and its long term financial model for Foundation Trust purposes, these transitional costs are shown as funded by CIPs and AT support in respect of both Project Team support (which was previously funded by the South East Coast SHA) and Other Transitional Costs (which was deemed to be part of "2% Top Slice" funding arrangements). A letter from the Chief Executive of NHS Sussex dated 28 March 2012 is included in Appendix 10J, confirming the commitment to support the 3Ts programme and highlighting the development's regional strategic importance.

1.4.27 Detailed plans will need to be completed and funding updated before the Full Business Case is approved.

1.4.28 Following Department of Health guidance and with input from Cost Advisers, an additional allowance for PFI specific costs has been made. These costs would cover Financial and Legal advice and additional fees and including the impact of an extended programme would equate to an additional £7.3 million. A total of £41.6 million would be required over the course of an extended PFI funded programme.

Summary of scenarios and sensitivities

1.4.29 The Table below provides a summary of the five modelled scenarios together with a sensitivity based on the maximum debt the Trust could carry (£172.5m) whilst maintaining criteria similar to the preferred option.

Figure 1.22: Scenario Summary

	Do Nothing	Public funding (Preferred Option)	Maximum Debt (Sensitivity)	Tier 1 Prudential borrowing & PDC	100% Prudential borrowing	PFI (Partial Indexation)
Term of loan used in scenario	N/A	N/A	25 Years	25 Years	25 Years	N/A
Income growth to 2021/22 (excluding KSS Deanery)	9.10%	15.30%	15.30%	15.30%	15.30%	11.20%
In Year Savings peak	£31.6m 2014/15	£32.3m 2014/15	£32.3m 2014/15	£33.1m 2014/15	£32.7m 2014/15	£59.9m 2020/21
Cumulative Savings required including accounting anomaly	£237.0m	£251.7m	£251.7m	£257.7m	£259.3m	£279.4m
EBITDA at 2021/22	8.7%	11.2%	11.2%	11.2%	11.5%	13.5%
Cash balance at 2021/22	£20.6m	£31.8m	£14.2m	£25.3m	Overdraft (£39.5m)	£15.8m
Overall FRR of 4 delivered	2020/21	2019/20	2021/22	Never	Never	2020/21
Transitional Costs (assumes no redundancy cost for existing Project Team)	Zero beyond 2013/14	£34.3m	£34.3m	£34.3m	£34.3m	£41.6m (includes legal & financial advice & project team for further 2 years)

1.4.30 The difference between the maximum debt sensitivity and the preferred option, is shown in the cash position. The lower cash balance on the maximum debt sensitivity is due to loan repayments having to be made in addition to meeting interest costs of the £172.5m represented by this sensitivity.

1.4.31 A downside sensitivity was also considered and after mitigating factors are taken into account all scenarios including the “Worst case” show sufficient surpluses by 2021/22 to meet the Trust’s breakeven duty.

1.4.32 In summary the development is affordable and the preferred option is to draw down £420m of public capital. A pragmatic view of the mix of debt and PDC will need to be taken and reviewed at key points in the implementation of the project.

Financial Case – Conclusions

- The 3Ts development as a whole is affordable and sustainable to the Trust and local health economy, with the majority of activity (and income) growth falling to specialist commissioning budgets.
- This has been validated through external scrutiny of commissioning plans and Medium Term Financial Plans.
- Public funding is the most affordable procurement route in the current economic climate.
- PFI remains an option but is more expensive in cash terms and would mean significant year on year savings above current levels.
- The capital cashflow of the preferred option peaks at £89 million in 2015/16 but remains below £60 million for most other years.

1.5 Commercial Case

1.5.1 In August 2008 the Trust appointed the Laing O'Rourke ProCure 21 (P21) consortium to assist in developing the OBC. Laing O'Rourke has a very successful track record in delivering large P21 schemes to time, cost and to a high quality standard. The consortium architects are Building Design Partnership (BDP), who were also the designers of the multiple award-winning Royal Alexandra Children's Hospital and who have developed an excellent relationship with the Trust over the last six to seven years.

Procurement Strategy

1.5.2 The Trust has examined a series of potential procurement options and has identified two for further consideration:

- Public funding using ProCure 21 as the delivery mechanism; or;
- PFI

1.5.3 PFI has a well-established track record of delivery for major investment projects: the Royal Alexandra Children's Hospital on the RSCH campus was delivered using this procurement route.

1.5.4 In considering these procurement options the Trust used HM Treasury standard methodology to undertake a quantitative and qualitative comparison of PFI versus public funding. The qualitative and quantitative analyses did not identify a clear advantage of one methodology over the other, but the economic analysis identified public funding as have an advantage over PFI.

1.5.5 However based on the Trust's previous experience and the evidence on PFI procurement, the Trust is clear that PFI would take at least two to three years longer than the traditionally funded alternative to effect a start on site. Such a delay from an economic perspective delays the realisation of benefits and therefore makes a publicly funded route a better value for money option. Ignoring the impact of delay and the timing of benefits, the economic case also shows that a reduction of 5% in the Unitary Charge would be required before the outcome of the economic case changes from public funded to PFI funded.

1.5.7 The prevailing macroeconomic climate means that access to PFI-type funding is currently more difficult than in previous years and there are limited benchmarks available in the Health Sector for a PFI delivered under arrangement based on Partial Indexation, although this has been modelled from the evidence available. The PFI Unitary Payment which would be expected to be generated by the development has been calculated to be 37% above that which would have been generated in the mid-2000s at a time of greater market liquidity.

- 1.5.8 The Trust's financial advisers have also examined the funding terms currently available in the market for live transactions for PF2 type deals which continues to show that a private finance solution would be less affordable than the publicly funded alternative.
- 1.5.9 The Trust therefore considers that it would be more advantageous in economic, affordability and timescale terms to utilise public funding.
- 1.5.10 Continuation of the current arrangement with Laing O'Rourke will be reviewed by the Trust at FBC stage to ensure that value for money for the build solution can be demonstrated openly and transparently, in line with the ProCure 21 arrangements.

Commercial Case – Conclusions

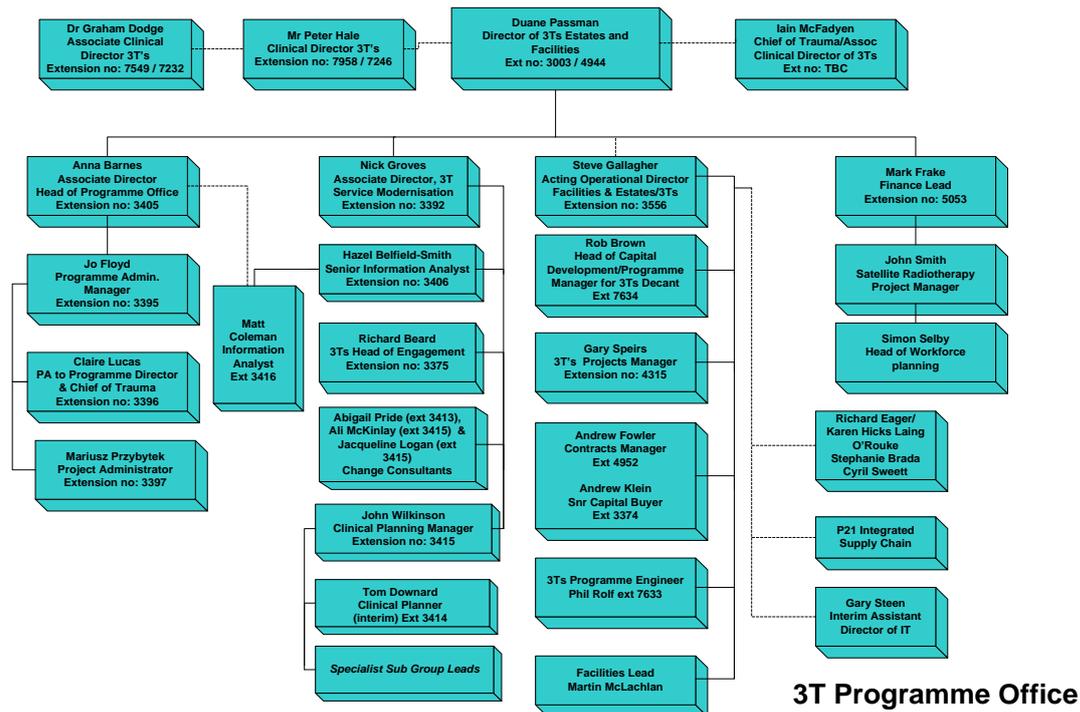
- The Trust has carefully considered the procurement alternatives available to deliver the new facilities required for the 3Ts programme.
- The Trust considers that public funding using P21 as the delivery mechanism is the most advantageous way forward.

1.6 Project Management Case

Programme and Project Management Arrangements

1.6.1 The Programme Director, Programme Managers and Programme Team have clearly defined roles and reporting arrangements as set out in the structure below.

Figure 1.23 BSUH 3Ts Programme Office



1.6.2 As can be seen, the Trust has assembled an extensive team to manage its input to the delivery of the programme, many of whose members have previous experience of major capital investment projects in the NHS. The Programme Director has commenced study in the Major Projects Leadership Academy, in Cohort 4.

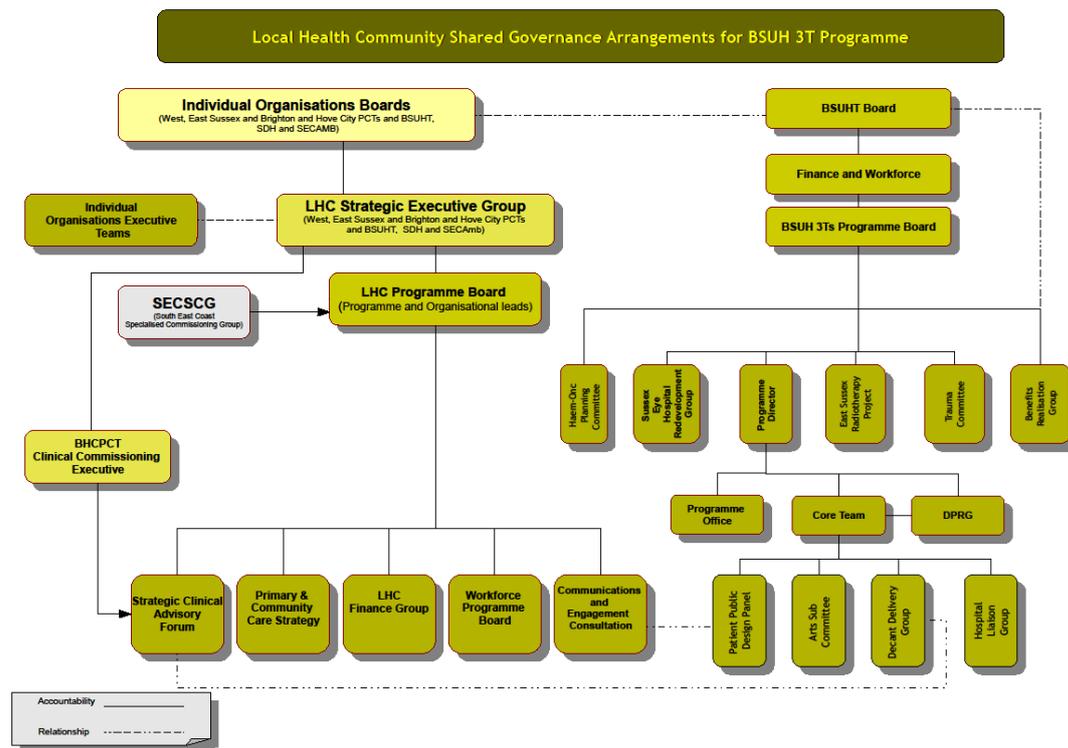
1.6.3 The Trust has established a 3Ts modernisation workstream to ensure that workforce, communications and engagement, and service modernisation are addressed in parallel with the capital development.

1.6.4 There is also significant clinical input into the programme, led by the Clinical Director and Associate Clinical Director for the 3Ts Programme alongside the Chief of Trauma. All are practising clinicians.

Wider Governance

1.6.5 Partner NHS organisations recognise the importance of the 3Ts programme to the wider health community across the region. A series of local health community-wide groups was established to ensure that there is full engagement in the 3Ts programme and that there are clear links between that programme and other developments in the region. The Trust is currently working with commissioners to refresh these arrangements to ensure that they are fit for purpose as the development moves from OBC to FBC.

Figure 1.24 Shared Governance Arrangements for the BSUH 3T's programme



Programme Timetable

1.6.6 The outline timetable for the development and delivery of the 3Ts programme is set out below. This will require further detailed development and revision subsequent to OBC approval:

Figure 1.25 Outline Timetable

Milestone	Date
SOC approved by SE Coast SHA	Complete July 2008
OBC to Trust Board for approval	Complete 30 June 2009
Submit OBC to NHS SE Coast for approval	Complete July 2009
OGC Gateway 1 assessment	Complete August 2009
OBC approval period	Complete July – October 2009
OBC approved by NHS South East Coast	Complete November 2009
Submission of OBC to DH	Complete November 2009
Refreshed OBC to NHS South East Coast and DH	May 2011
NHS South East Coast re-approval	July 2011
Statutory planning submission for main build	September 2011
Submission of refreshed OBC to NHS South of England	November 2011
Statutory planning approval for main build	Jan 2012
Approval of OBC by NHS South of England	March 2012
Submission of refreshed financial and affordability analysis to Trust Development Authority	May 2013
Confirm target cost for main construction works	Early 2014
FBC to Trust Board for approval	Early 2014
Submit FBC to TDA for approval	Early 2014
FBC approval period by TDA, Department of Health and HM Treasury	Early- Mid 2014
Trust decants existing services from Stage 1 build site – phased (completion)	Mid 2015
Commence Stage 1 building works – Podium and tower (35 months)	Early 2015
Stage 1 Complete and Fully Operational	Late 2018/Early 2019
Commence Stage 2 enabling works, demolitions and man build	Early 2019
Complete Stage 2	Early 2022
Stage 2 Fully Operational	Mid 2022
Overall Development Complete and Operational	Mid 2023

Project Management Case – Conclusions

- The Trust and its partners across the local health community have developed robust governance arrangements to ensure that the benefits of the 3Ts Programme can be fully realised.
- The Trust and Laing O'Rourke have also developed a programme plan for delivery. Although this will be challenging, it is deliverable.

1.7 Conclusions and Recommendation

1.7.1 This development presents a unique opportunity to strengthen tertiary/specialist and secondary care services. It will significantly enhance the Trust's reputation for excellence as a University Teaching Hospital, providing opportunities for ever closer partnership with the Brighton & Sussex Medical School and the Universities of Brighton and Sussex. Most importantly, it will provide significant improvements in access and clinical outcomes for the local populations of Brighton & Hove and for patients across Sussex and the South East. It will also radiate wider benefits across the South East to other NHS organisations for teaching and research.

1.7.2 This Outline Business Case, which has the support of all stakeholder organisations and clinical networks, seeks approval to invest £420.1m in the delivery of the new facilities necessary to implement the 3Ts programme. The OBC was approved by NHS South of England (and its predecessor organisation) and NHS Sussex (and its predecessor organisations).

Recommendation

1.7.3 It is recommended that Trust Development Authority support the proposals set out in this business case for the Regional Centre for Teaching, Trauma and Tertiary Care and to seek the approval of HM Treasury to proceed with the development.