

## **CHAPTER SEVEN - NON-FINANCIAL BENEFITS APPRAISAL**

### **7.1 Introduction**

- 7.1.1 This section discusses the different options for delivering the project objectives. The objectives set out in Chapter 5 of this Business Case and the scope of the project needed to deliver them is set out in Chapter 6. The process of benefits identification and assessment, plus the plans the Trust has in place to realise the benefits are set out in Chapter 13.

### **7.2 Benefits Criteria Identification**

- 7.2.1 The qualitative benefits were identified in several workshops that took place in September and December 2008 involving a wide variety of stakeholders, as detailed at **Appendix 7A**. These were reviewed during the updating of the OBC and still found to be applicable. They will be subject to further review during the development of the Full Business Case.
- 7.2.2 Attendees were split into groups for discussion and benefits generated. The identified benefits were then presented to the wider group and validated. Over a hundred benefits were generated, these were categorised and grouped so that sub-benefits were created.
- 7.2.3 This process was facilitated by researchers from HaCIRIC – the Health and Care Infrastructure Research and Innovation Centre. HaCIRIC is a unique joint enterprise made up of researchers from the Universities of Loughborough, Reading, Salford and Imperial College London.
- 7.2.4 This generated the qualitative benefits detailed overleaf.

**Figure 7.1 Benefit Criteria**

	<b>Criteria</b>	<b>Description</b>
<b>1. Strategic Fit</b>		
1.1	Stakeholder alignment	How consistent is the option with the priorities and targets of our PCTs, SHA and Department of Health?
1.2	Context	How consistent is the option with the Trust's strategic priorities?
1.3	Research alignment	How well does the option further the joint research priorities of BSUH/Brighton & Sussex Medical School?
1.4	Synergy	How consistent is the option with the strategies of our clinical networks and neighbouring NHS Trusts?
1.5	Image & reputation	To what extent is the option likely to improve the Trust's reputation/image with our patients and local residents?
<b>2. Clinical Outcomes</b>		
2.1	Co-location	How well does the option co-locate services on the RSCH campus to improve patient care?
2.2	Reduce unnecessary patient attendances	Outdated accommodation leads to inefficient processes and repeat patient visits. To what extent will the option improve this and reduce unnecessary attendances?
2.3	Improved quality of care	How well will the option improve the patient's experience of the care they receive?
2.4	Improved care outcomes	To what extent will the option improve clinical outcomes, e.g. Healthcare Acquired Infection, mortality?
<b>3. Appropriate Facilities (and Facilities Management)</b>		
3.1	Fit-for-purpose building and infrastructure	To what extent will accommodation be 'fit for purpose' in the option?
3.2	Flexibility and future development of facilities	To what extent does the option lend itself to flexible use of facilities and possible expansion in the future?
3.3	Physical distribution of service locations (layout)	How sensibly are buildings/services arranged in the option, e.g. to reduce time staff, patients and visitors spend moving across the site
3.4	Improved support services	To what extent does the option improve Facilities Management, e.g. supplies, laundry, waste disposal?
3.5	Increased patient safety	To what extent is the option likely to improve patient safety?

	<b>Criteria</b>	<b>Description</b>
3.6	Greater privacy (by better design)	To what extent is the option likely to improve patient dignity and privacy?
3.7	Backlog maintenance	To what extent will the option reduce backlog maintenance on the existing estate?
3.8	Better working environment	To what extent will the option provide a better working environment for staff?
<b>4. Access to Services</b>		
4.1	Demand/capacity fit	To what extent will the option increase capacity (e.g.. inpatient beds) in line with demand?
4.2	Improved physical access	To what extent will the option improve patients' and visitors' physical access to the campus, e.g. parking, public transport, finding their way once on site?
4.3	Availability of services	To what extent will the phasing of the development allow the Trust's highest priority services to start/be improved first?
<b>5. Teaching, Training &amp; Research</b>		
5.1	Improved research capability	To what extent will the option enhance the research capability of the Trust/Universities/Brighton & Sussex Medical School?
5.2	Improved teaching	To what extent will the option enhance the teaching of students/trainees of all disciplines?
5.3	Knowledge transfer	To what extent does the option create a good learning environment for all staff?
<b>6. Use of Resources</b>		
6.1	Use of technology	To what extent does the option take advantage of the latest technology to provide more efficient and more effective services?
6.2	Recruitment & Retention	To what extent is the option likely to strengthen the recruitment and retention of staff?
6.3	Improved efficiency	To what extent is the option likely to improve the efficiency of services?
<b>7. Operational Management</b>		
7.1	Improved service coordination	To what extent is the option likely to lead to more effective operational management of services?
7.2	Communication & teamwork	To what extent is the option likely to strengthen staff communication and teamwork?

Criteria	Description
7.3 Impact of construction	How likely is it that services will be able to treat the same number of patients during the building/decant phase under this option?
<b>8. Development &amp; Implementation</b>	
8.1 Investment / change management effort	To what extent does the option require more investment in change management than is likely to be feasible?

### **7.3 Options Considered at Strategic Outline Case**

7.3.1 There were a significant number of options considered at the Strategic Outline Case stage which responded to the strategic context then extant. This long list was:

1. Do nothing, i.e. maintain the current size, configuration and management of all services;
2. No change in estate. Adopt the new service vision to the extent that is possible with no change in the size or physical configuration of services. Neurosciences would remain at PRH;
3. Do minimum. Consolidate ITU and HDU, merge MASU and SASU, consolidate the Urgent Care Centre and A&E services on the RSCH site, expand cancer services but make no changes to the capacity of other services. Neurosciences would remain at PRH;
4. Do minimum and relocate Neurosciences. As option 3, but with the relocation of the existing Neurosciences from PRH;
5. Do minimum, relocate Neurosciences and introduce new service model. As option 4, but with the introduction of as much as possible of the new service models which are derived from the service vision;
6. Level 5 reconfiguration only. Consolidate and expand ITU and HDU, merge MASU and SASU, consolidate the Urgent Care Centre and A&E services on the RSCH campus, expand cancer services but make no changes to the capacity of other services. Neurosciences would remain at PRH;
7. Level 5 reconfiguration and relocate an expanded Neurosciences. As option 6, but with the relocation of an expanded Neurosciences from PRH;
8. Level 5 reconfiguration, relocate expanded Neurosciences and introduce a new service model. As option 7, but with the introduction of as much as possible of the new service models which are derived from the service vision;
9. New capital build, to develop a Level One trauma centre, but with no change in cancer or neurosciences;
10. New capital build, to develop a Level One trauma centre, and an expansion in the cancer service but no change in neurosciences;
11. As option 10 but with the co-location (but no expansion) in neurosciences;
12. As option 11, but with expanded neurosciences, applied to the catchment defined by land ambulance transfers;
13. As option 12, but applied to the catchment population defined by air ambulance transfers;
14. As option 13, but for paediatric as well as adult trauma.

7.3.2 Using the benefit criteria and critical success factors which were current at SOC stage, this long list of options was reduced to a short list of representative options as shown below.

**Figure 7.2 Shortlisting of Options at SOC Stage**

	<u>Option 1</u> <u>Do Nothing</u>	<u>Option 3</u> <u>Do Minimum</u>	<u>Option 5</u> <u>Reduced Scope</u>	<u>Option 8</u> <u>Maximum Scope with Minimum Newbuild</u>	<u>Option 13</u> <u>Newbuild with Level One Trauma Centre</u>
<b>Benefits Criteria</b>					
i) Strategic Fit	Fail	Fail	Poor	Limited	Good
ii) Clinical Outcomes	Fail	Fail	Poor	Partially achieved	Good
iii) Modern Healthcare Facilities	Fail	Fail	Poor	Partially achieved	Achieved
iv) Improved Access	Fail	Fail	Partially achieved	Partially achieved	Achieved
v) Training, Teaching and Research	Fail	Fail	Poor	Partially achieved	Achieved
vi) Effective Use of Resources	Fail	Fail	Poor	Partially achieved	Achieved
<b>Critical Success Factors</b>					
i) Business Needs	Fail	Fail	Poor	Partially achieved	Achieved
ii) Benefits Optimisation	Fail	Fail	Poor	Partially achieved	Good
iii) Deliverability	Achieved	Achieved	Achieved	Achieved	Good
iv) Supply-Side Capacity and Capability	-	-	Acceptable	Acceptable	Good
v) Affordability	Good	Good	Good	Good	Good
<b>Summary</b>	<b>Discount</b>	<b>Discount</b>	<b>Compar- ator</b>	<b>Possible</b>	<b>Preferred</b>

7.3.3 The preferred option at SOC stage was Option 13 which was a mainly new-build option (with some refurbishment to create the additional maternity capacity required by the Fit for the Future programme. As noted in Chapter 6, this is no longer in the project scope).

## 7.4 The Long-Listed Options for the Outline Business Case

- 7.4.1 As described in Chapters 3 to 6, there is a clear strategic and tactical requirement for the redevelopment of the RSCH to deliver the 3Ts programme. During the development of the brief between August and October 2009, there was considerable discussion between the Trust and Laing O'Rourke as to the nature, shape and form of the options which could deliver the project objectives and were deliverable. The Trust was also clear that keeping 'Do Minimum' was necessary to identify a baseline against which all other options could be measured in quantitative and qualitative terms.
- 7.4.2 The long-list of options to deliver the programme investment objectives are summarised below:

*Figure 7.3 Long List Options at OBC*

Long List Option	Stages	Summary of Content in Each Stage
1	1	Develop "Latilla" site for new medical and elderly wards, neurosciences and trauma with St Mary's site for offices.
	2	Develop "Barry" site for cancer centre & research
2A	1	Develop "Latilla" site for new medical and elderly wards, neurosciences and trauma and cancer (including cancer beds)
	2	Develop "Barry" site for outpatients (currently in Barry building), research and offices.
2B	1	Develop "Latilla" site for new medical and elderly wards, neurosciences and trauma and cancer (NOT including cancer beds)
	2	Develop "Barry" site for outpatients (currently in Barry building), research and offices and cancer beds.
3	1	Develop part of the cancer centre (mainly radiotherapy) behind the Barry building
	2	Develop "Latilla" and existing cancer centre site for replacement medical and elderly wards plus cancer centre wards, research and offices.
	3	Develop cancer centre expansion on the Barry site.
5	1	Develop "Latilla" site for oncology and associated functions.
	2	Develop existing cancer centre site for new medical and elderly wards, neurosciences and trauma
	3	Retain the Barry building for non-clinical functions.
Do minimum		A series of extensions and refurbishment, plus a new-build for neurosciences on the "Latilla" site

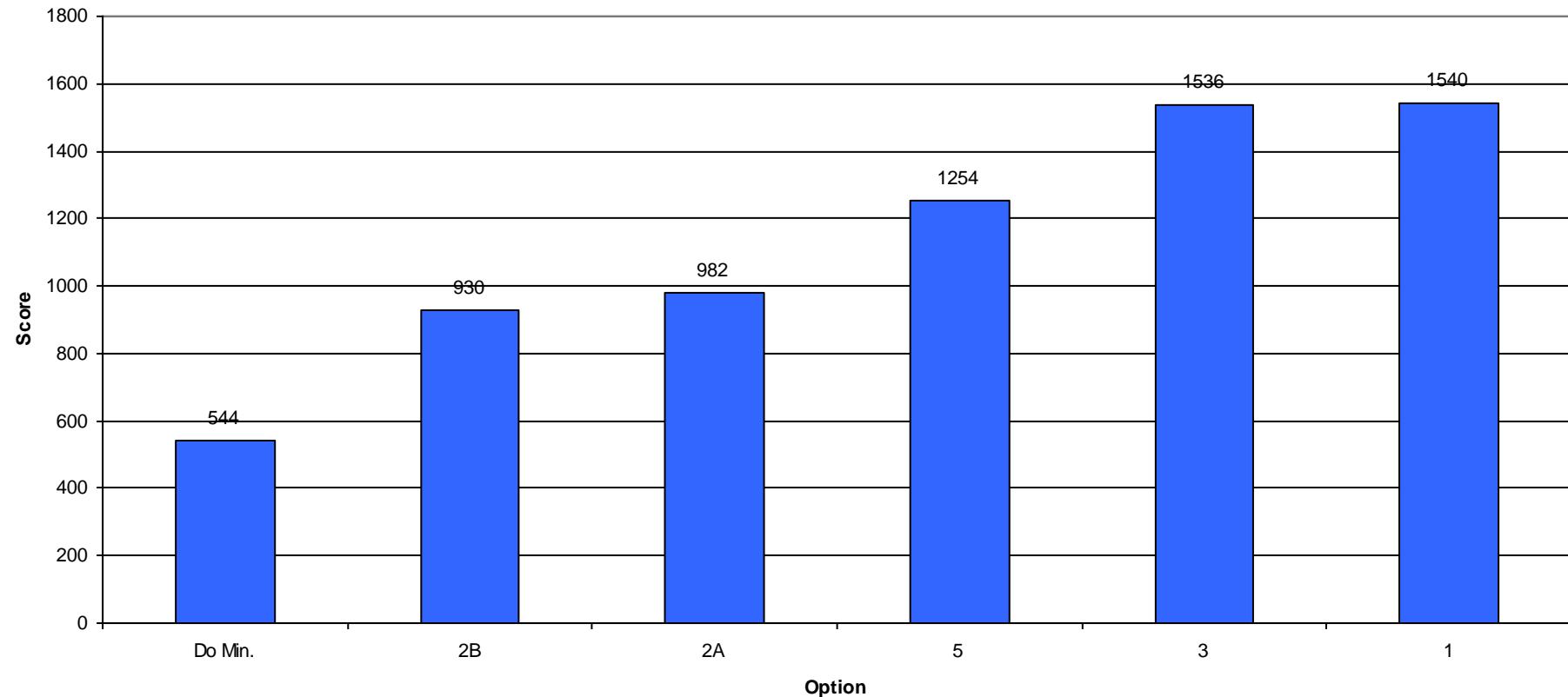
- 7.4.3 The SHA-approved business case stated that Option 1 would provide offices in Rosaz House. Since then the Trust has acquired the St Mary's site where the offices will be provided. Rosaz House will be used by MacMillan Cancer Support as an Information Support Centre. The costs of the requisite modifications to the parts of St Mary's being utilised as part of the decant solution are within the scope of the 3Ts programme. The acquisition of St Mary's site was the subject of a separate business case.

- 7.4.4 Drawings of all the long listed options, plus capital costs and associated information can be seen in Volume 1 – Long List Option Appraisal report of the Laing O'Rourke OBC Deliverable suite of documents which are appended separately to the OBC.
- 7.4.5 A workshop was held on 18 December 2008 attended by almost 20 Trust staff and key stakeholders. The event was facilitated by the Programme Director to ensure that the views of the Trust team did not influence the attendees who would base their opinions on the presentations made by the Design Team on each option.
- 7.4.6 The attendees were asked to score each of the options against the benefit criteria set out above.
- 7.4.7 The output of this workshop is illustrated in the bar chart below:

Figure 7.4 Shortlisting of Options at OBC- Workshop Outcomes

3T Design Options: Outcome of Shortlisting Workshop (18th December 2008)

Result: Options 1, 3 and 5 (plus the 'do minimum') will be carried forward to the final selection stage



## 7.5 Short Listed Options

- 7.5.1 The options carried forward into a short-list for more detailed qualitative and financial appraisal and evaluation were Options 1, 3, 5, and 'Do Minimum'. In between the workshops in December 2008 and February 2009, the Trust decided to identify two different Do Minimum Options – Do Minimum "A" which refurbished and extended the neurosciences centre at Hurstwood Park, and Do Minimum "B" which relocated it to the RSCH campus in new-build accommodation. These are described in more detail below.
- 7.5.2 Obviously, the Trust and the Laing O'Rourke Design Team developed the shortlisted options further to ensure that there was a clear strategy for deliverability behind each of the options.
- 7.5.3 Drawings of all the shortlisted options, plus capital costs and associated information can be seen in Volume 1 – Short List Options Appraisal Report of the Laing O'Rourke OBC Deliverables suite of documents which are appended separately to this OBC. The full suite of documentation was provided with the version of the OBC submitted to NHS South East Coast in July 2009 and to the Department of Health in November 2009.
- 7.5.4 Since this time Option1 (the preferred option) has been refined following extensive consultation with Brighton and Hove City Council, English Heritage and other stakeholders, principally because of concerns about height and mass, and the requirement to provide additional parking, The following description reflects these design refinements and therefore described option 1 as of June 2011.
- **Option 1** provides 60,858 m<sup>2</sup> (excluding car parking) by demolishing the existing Barry Building and Cancer Centre and building new facilities to include a new cancer development on the Royal Sussex Hospital site. It also provides a future expansion site on the hospital campus. Stage 1 would be to redevelop the Latilla site, providing a 41 064 m<sup>2</sup>, 12-storey new building to accommodate neurosciences, trauma and departments from the Barry Building. The Barry site would be demolished once Stage 1 is completed and a 5-storey new build of 19 747m<sup>2</sup> would be provided in Stage 2 to hold oncology, teaching BSMS and non clinical offices. A car park and future expansion site will be provided underground in stage 3. 'Hot' clinical activity would take place in the new Latilla building.

**Figure 7.5 Option 1**

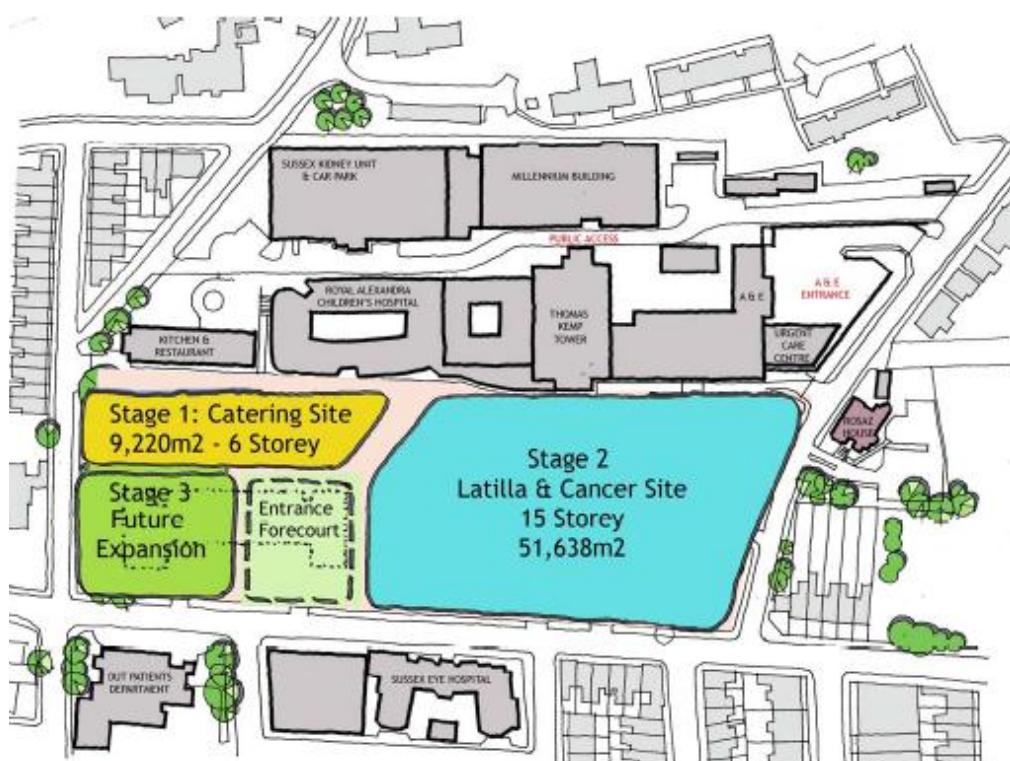


- Advantages:
  - Neurosciences, Trauma and Fit for Purpose accommodation delivered in Stage 1. Oncology has its own identity and integrated with the 'Main Hospital';
  - replaces all outdated buildings on the south site (Cancer & Barry Buildings);
  - smallest scale building due to increased site area – perceived lowest planning risk.
- Disadvantages:
  - smaller floor plate than other Short List Options – longer development period, especially for cancer services;
  - Trauma adjacency to A&E is not as direct as the other Short List Options;

### Option 3

- 7.5.5 Option 3 provides a total area of 60,858m<sup>2</sup> (excluding car parking). It replaces the cancer building in stage 1 on the catering site to provide a 6-storey, 9,220m<sup>2</sup> new build for cancer (excluding cancer wards) and medical physics. In stage 2, 51,638m<sup>2</sup> is provided on the Latilla and Cancer site to provide trauma, neurosciences, Fit for Purpose accommodation, Barry departments and teaching BSMS. Stage 3 would allow future expansion.

**Figure 7.6 Option 3**



- Advantages:
  - large Stage 2 site enables large floor-plates and adjacency to A&E – Neurosciences and Trauma;
  - replaces all outdated buildings on the south site;
  - new Oncology Centre has its own identity – separate building.
- Disadvantages:
  - Oncology Building remote and clinically inefficient – double stacked Radiotherapy;
  - stage 2 not able to commence until the new Oncology Building is fully operational;

- Neurosciences, Trauma and Fit for Purpose accommodation at end of project;
- future expansion site is remote and disconnected from the Main Hospital.

### Option 5

7.5.6 Option 5 is for the delivery of a total 60,858m<sup>2</sup> (excluding car parking) by demolishing the cancer centre and re-providing in a new build, and retaining the Barry building. This option would be delivered over three stages. Stage 1 is to redevelop the Latilla site and replace the cancer building with a 16,273m<sup>2</sup> building for cancer (excluding beds) and part of Fit for Purpose accommodation. Stage 2 is to provide 38,605m<sup>2</sup> on the cancer site to provide cancer beds, trauma, neurosciences and the remaining part of Fit for the Future. Stage 3 would be to deliver 5,980m<sup>2</sup> for teaching and non-clinical offices on the Barry site.

**Figure 7.7 Option 5**

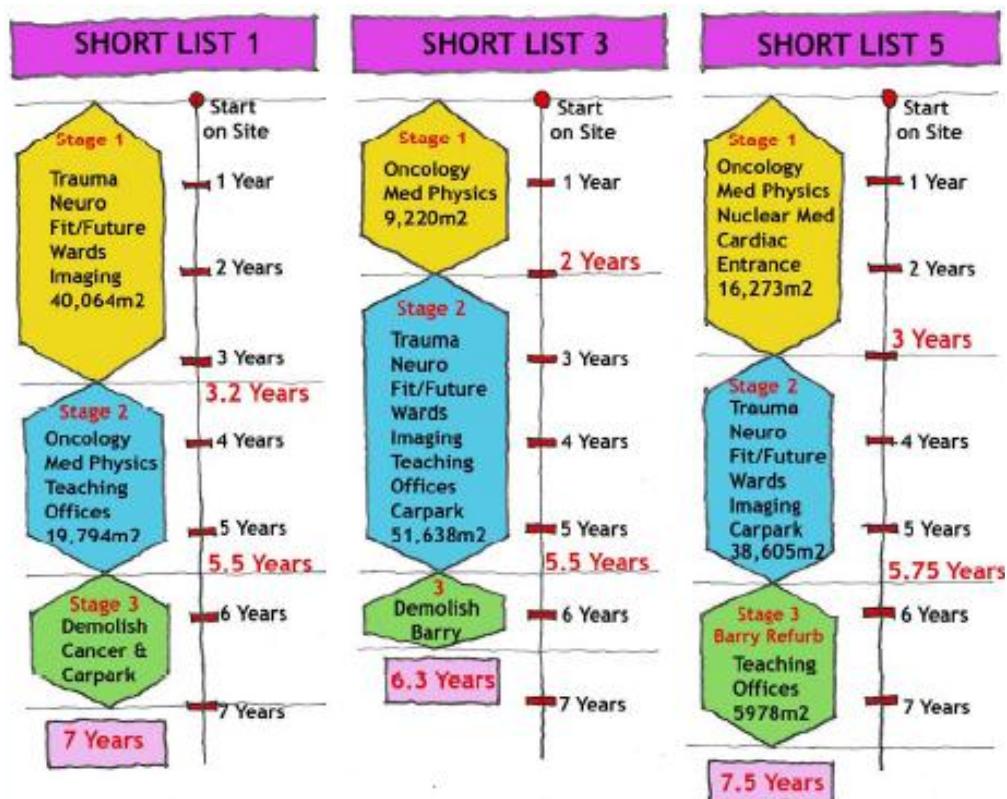


- Advantages:
  - Stage 2 enables large floor-plates and key adjacencies to A&E – Neurosciences and Trauma;
  - Oncology integrated in the ‘Main Hospital’ (Radiotherapy in Basement);
  - Barry Building retained for Non-Clinical use and enables a Future Expansion Site.
- Disadvantages:

- largest building mass due to constrained site – potential planning risk;
- uncomfortable scale relationship with the Barry Building;
- complicated construction phasing – building above the new Oncology facilities;
- Radiotherapy is located in the Basement.

7.5.7 The timescales for delivering options 1, 3 and 5 are shown in Figure 7.8 below.

**Figure 7.8 Timescales for delivery of Options 1, 3 and 5**

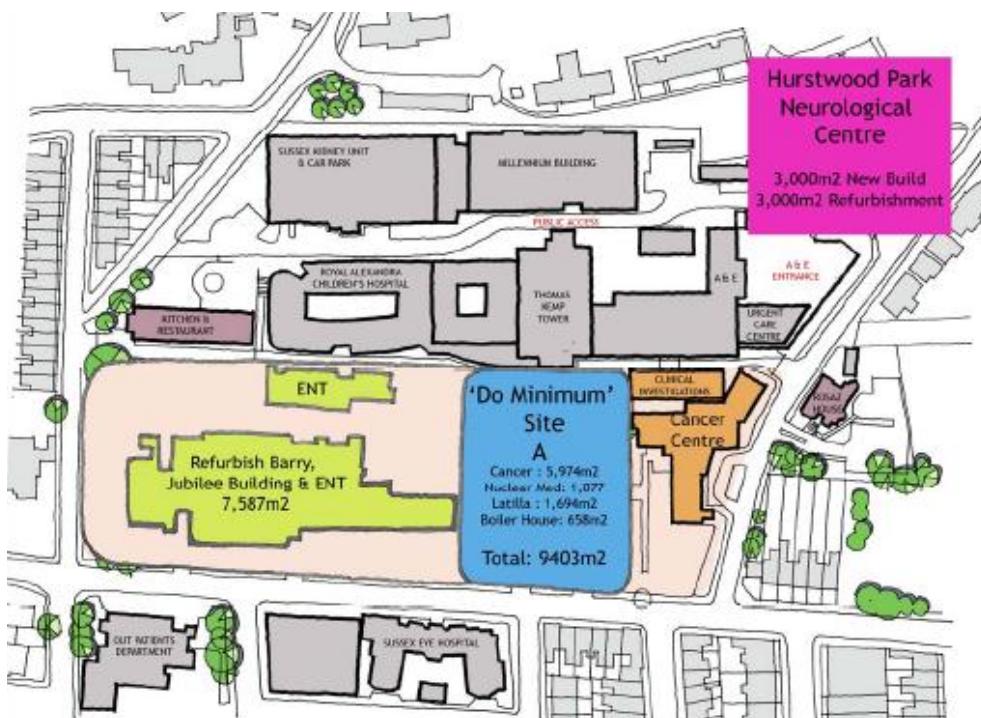


Note: the delivery timescales were the best estimates of implementation available at the time of the option appraisal exercise. Since February 2009, a significant amount of work has been undertaken on developing decant, enabling and construction solution in greater detail for the preferred option (which is option 1 from above). This has increased the overall implementation period to 10 years. This will be similar for all options and therefore there is no impact on the weighting and scoring which was undertaken.

## Do Minimum A

- 7.5.8 Do Minimum Option A incorporates new build and refurbishment on two separate sites. At the Royal Sussex Hospital, this option would be to refurbish the Barry, Jubilee and ENT buildings ( $7,587\text{m}^2$ ) and build a new Cancer and Nuclear Medicine Latilla, Estates and Boiler ( $12,224\text{m}^2$ ). It would also include  $3,000\text{m}^2$  of refurbishment and  $3,000\text{m}^2$  new build on the Hurstwood Park site. This is shown in the figure below.

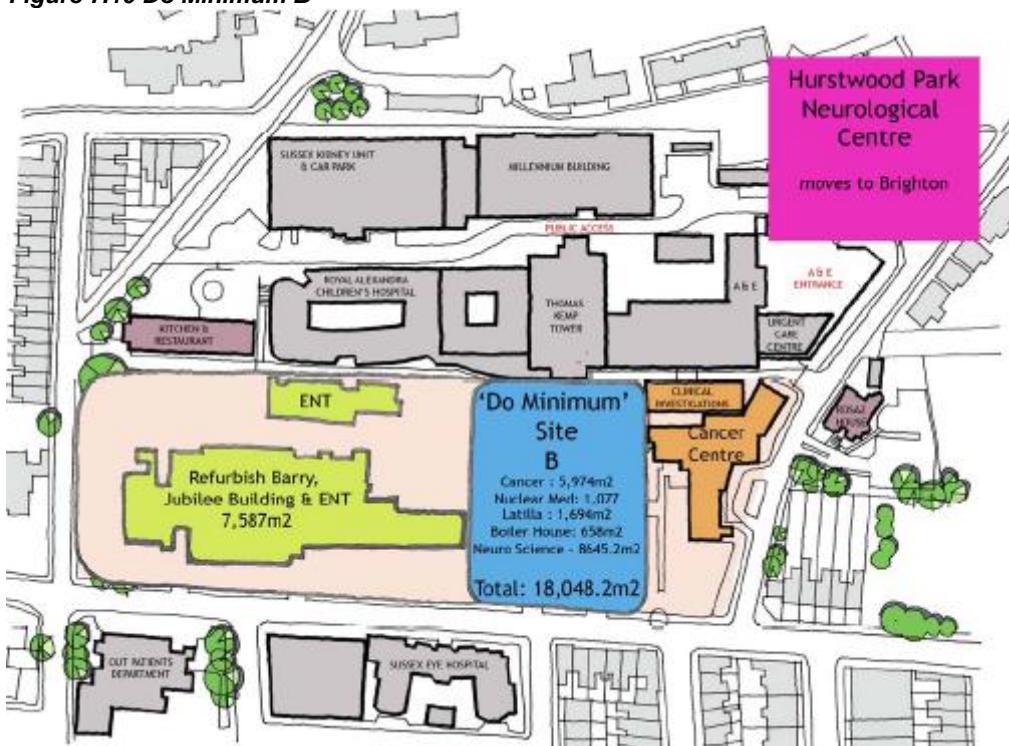
**Figure 7.9 Do Minimum A**



## Do Minimum B

- 7.5.9 Do Minimum Option B incorporates new build and refurbishment on one site at the Royal Sussex Hospital. This option would be to refurbish the Barry, Jubilee and ENT buildings ( $7,587\text{m}^2$ ) and build a new Cancer and Nuclear medicine Latilla, Estates and Boiler as in Do Minimum Option A. Do Minimum Option B includes a new Neurosciences building that would move from Hurstwood Park. Therefore  $18,048\text{m}^2$  of new build would be provided under this option.

**Figure 7.10 Do Minimum B**



7.5.10 Do Minimum options are included in the option appraisal as baseline options. Both include refurbishment and it should be recognised that inevitably the use of refurbished building stock for new clinical accommodation will to some extent compromise the aspirations to provide effective care and capacity to optimise health outcomes. It will not always be possible to create the equivalent physical environment of a new Hospital in respect of the following:

- Current Healthcare Design Standards;
- Current Regulations & Legislation;
- Current aspirations for Patient comfort;
- Future flexibility and expansion.

7.5.11 The headline limitations are discussed in more detail below.

- **DH Design Standards** – HTM and HBN Requirement for derogations. Achievement of current DH space standards will be compromised with the retention of existing building layouts, when for example masonry walls cannot be demolished. Refurbished room sizes, required floor area and minimum dimensions called for in relevant the HBN documents may not be achieved;

- **HBN** – Standards for public and patient circulation, protection, access and patient movement will most likely not be achievable within the refurbished building fabric without extensive remodelling works not possible with the structural limitation of alteration;
- **HTM** – Fire and Acoustics standards as set out in HTMs will be difficult to achieve and alternative proposals will have to be put forward to meet requirements;
- **Patient Privacy & Dignity.** Meeting current expectation for patient privacy and dignity will be compromised. For example space restrictions limiting the provision of single bedrooms and en-suite bathrooms to bed spaces will result in the continued use of multi bed rooms and shared sanitary facilities. The separation of patient and public circulation routes may not be possible to the extent expected in new hospitals;
- **Infection Control.** Meeting the current expectation for infection control will be challenging if adopting existing layouts in refurbished building stock. This will be if more accommodation and sanitary facilities are shared between patients and clean and dirty FM traffic separation is not achievable;
- **Building Regulations.** It is likely that possible requirements for derogations will include Part B – Fire Full assessment of existing fabric, Part L2B – Thermal Performance;
- **Future Flexibility.** Inevitably the scope for future change and upgrade of clinical provision in refurbished building stock will always be limited.

### Design Comparator Matrix

7.5.12 A design comparator matrix workshop took place on 5th February 2009 and the shortlisted options were considered under the following headings. The full design comparator matrix can be found at **Appendix 7B**.

- Clinical;
- Architectural;
- Planning;
- Technical – Structures;
- Technical - Transport and Civil Engineering;
- Technical – Services;
- Programme;
- Decant.

## 7.6 Short listing to Preferred Option

- 7.6.1 The appraisal of the qualitative benefits associated with each option has been undertaken by:
- Identifying the benefits criteria;
  - Weighting the relative importance (%) of each benefit criteria in relation to each Objective;
  - Scoring each of the short-listed options against the benefit criteria on a scale of 0 to 10;
  - Deriving a weighted benefits score for each option.

### Weighting the Benefits Criteria

- 7.6.2 The benefits and sub-benefits were weighted at a workshop in March 2009 as part of an open discussion using pair-wise comparison between attendees and the overall weights assigned to the eight benefits criteria are shown below. The sub-benefits lying beneath each of these headings were further weighted; these weights are shown in table 7.11.

**Figure 7.11 Weighted Benefit Criteria**

Qualitative Benefits Criteria	Weight (%)
1. Strategic Fit	13.4
2. Clinical Outcomes	17.9
3. Appropriate Facilities (and Facilities Management)	25
4. Access to Services	10.7
5. Teaching, Training and Research	8.9
6. Use of Resources	10.7
7. Operational Management	12.5
8. Development and Implementation	0.9
<b>TOTAL</b>	<b>100</b>

### Qualitative Benefits Scoring

- 7.6.3 A half day workshop was held on 9th May 2009 with a wide range of stakeholders, who are listed in **Appendix 7A**. Five shortlisted options/design proposals at a 1:500 scale were presented to attendees. The design team was present to provide support/clarification to attendees on the scope of the different options. The scoring system used was whereby a 1 was scored for an option least able to support the realisation of the benefit, and a 10 for the option most able to support the realisation of the benefit.
- 7.6.4 Each attendee individually scored the options against the benefits criteria which were then collated at the workshop and an average score taken. Where individuals felt they were not well placed to score against a certain criterion, then they left this

blank. The numbers of individuals who scored each option are shown below. Numbers in table 7.12 are rounded to two decimal places.

## 7.7 Analysis of Benefit Appraisal Results

7.7.1 The results of the benefits appraisal are shown in the table below:

*Figure 7.12 Benefit Appraisal Results*

	Benefits Criteria	Weight	No. of People Scored	Options/Scores						Weighted Options/Scores					
				1	3	5	Do Min A	Do Min B	1	2	3	Do Min A	Do Min B		
<b>1</b>	<b>Strategic Fit</b>	<b>13.4</b>													
1.1	Stakeholder Engagement	2.7	33	8.76	6.73	6.15	0.70	1.88	23.46	18.02	16.48	1.87	5.03		
1.2	Context	2.7	35	8.71	7.03	5.94	3.29	1.63	23.34	18.83	15.92	8.80	4.36		
1.3	Research Alignment	2.7	31	7.94	6.84	5.58	0.74	1.26	21.26	18.32	14.95	1.99	3.37		
1.4	Synergy	3.6	33	8.42	6.67	6.15	1.27	2.03	30.09	23.81	21.97	4.55	7.25		
1.5	Image & Reputation	1.8	35	8.80	6.74	5.91	1.03	1.69	15.71	12.04	10.56	1.84	3.01		
<b>2</b>	<b>Clinical Outcomes</b>	<b>17.9</b>													
2.1	Co-location	5.4	34	8.53	6.26	6.15	0.74	1.50	45.69	33.56	32.93	3.94	8.04		
2.2	Reduce unnecessary patient attendances	1.8	28	8.36	6.89	5.43	1.14	1.96	14.92	12.31	9.69	2.04	3.51		
2.3	Improved quality of care	5.4	33	8.39	7.24	6.61	0.97	1.79	44.97	38.80	35.39	5.19	9.58		
2.4	Improved care outcomes	5.4	32	8.00	7.09	6.50	1.13	1.81	42.86	38.00	34.82	6.03	9.71		
<b>3</b>	<b>Appropriate Facilities (and Facilities Management)</b>	<b>25.0</b>													
3.1	Fit-for-purpose building and infrastructure	3.6	35	8.34	6.57	5.97	0.94	1.60	29.80	23.47	21.33	3.37	5.71		
3.2	Flexibility and future development of facilities	2.7	33	8.12	6.18	5.55	2.12	2.48	21.75	16.56	14.85	5.68	6.66		
3.3	Physical distribution of service locations (layout)	3.6	37	8.11	6.46	6.43	0.95	1.57	28.96	23.07	22.97	3.38	5.60		
3.4	Improved support services	1.8	19	8.00	7.11	6.74	1.21	2.05	14.29	12.69	12.03	2.16	3.67		

	Benefits Criteria	Weight	No. of People Scored	Options/Scores						Weighted Options/Scores				
3.5	Increased patient safety	5.4	27	8.19	7.19	6.59	1.19	2.07	43.85	38.49	35.32	6.35	11.11	
3.6	Greater privacy (by better design)	3.6	31	8.71	7.81	7.16	1.29	1.90	31.11	27.88	25.58	4.61	6.80	
3.7	Backlog maintenance	0.9	22	8.45	7.64	4.77	0.86	1.77	7.55	6.82	4.26	0.77	1.58	
3.8	Better working environment	3.6	32	8.78	7.72	6.72	1.19	1.97	31.36	27.57	24.00	4.24	7.03	
<b>4</b>	<b>Access to Services</b>	<b>10.7</b>												
4.1	Demand/capacity fit	5.4	25	7.88	7.08	6.52	0.68	1.56	42.21	37.93	34.93	3.64	8.36	
4.2	Improved physical access	3.6	36	7.78	6.81	6.25	1.06	1.42	27.78	24.31	22.32	3.77	5.06	
4.3	Availability of services	1.8	32	8.72	5.84	5.47	0.56	2.22	15.57	10.44	9.77	1.00	3.96	
<b>5</b>	<b>Teaching, Training &amp; Research</b>	<b>8.9</b>												
5.1	Improved research capability	3.6	28	8.04	7.25	6.39	0.50	1.18	28.70	25.89	22.83	1.79	4.21	
5.2	Improved teaching	3.6	27	7.96	7.22	5.96	0.52	1.33	28.44	25.79	21.30	1.85	4.76	
5.3	Knowledge transfer	1.8	26	8.42	7.42	5.85	0.58	1.35	15.04	13.26	10.44	1.03	2.40	
<b>6</b>	<b>Use of Resources</b>	<b>10.7</b>												
6.1	Use of Technology	3.6	20	8.30	6.50	5.75	0.90	1.85	29.64	23.21	20.54	3.21	6.61	
6.2	Recruitment and Retention	1.8	31	8.52	7.06	6.39	0.74	1.58	15.21	12.62	11.41	1.32	2.82	
6.3	Improved efficiency	5.4	28	8.57	7.07	6.57	0.79	1.79	45.92	37.88	35.20	4.21	9.57	
<b>7</b>	<b>Operational Management</b>	<b>12.5</b>												
7.1	Improved service coordination	4.5	26	8.54	6.54	6.31	0.85	1.77	38.12	29.19	28.16	3.78	7.90	
7.2	Communication and teamwork	2.7	25	8.36	6.24	5.96	0.96	1.76	22.39	16.71	15.96	2.57	4.71	
7.3	Impact of construction	5.4	25	7.92	5.80	5.88	2.48	2.96	42.43	31.07	31.50	13.29	15.86	
<b>8</b>	<b>Development &amp; Implementation</b>	<b>0.9</b>												
8.1	Investment / change management effort	0.9	18	5.94	5.72	5.44	3.22	3.89	5.31	5.11	4.86	2.88	3.47	
<b>Total</b>		<b>100</b>								<b>827.7</b>	<b>683.6</b>	<b>622.3</b>	<b>111.1</b>	<b>181.7</b>

- 7.7.2 The key considerations that influenced the scores achieved by the various options were as follows:

#### **Option 1**

- 7.7.3 This option ranked first by a significant margin in the qualitative benefits scoring assessment and has been selected as the preferred option. The main reasons are that it provides a very good strategic fit for the 3Ts service objectives set out in the SOC, including additional and improved facilities for Teaching, Training and Research. The clinical briefs for Trauma, Neurosciences and Cancer are all achieved in full. This Option also replaces all of the old and temporary hospital accommodation on the Southern half of the RSCH site which is no longer fit for purpose. A good fit for most departmental adjacencies is achieved for clinical 'hot' and 'cold' accommodation, both within the new build and with the existing hospital departments that are being retained, such as main theatres, ITU and A&E. New accommodation for the medical wards (165 beds) and the Imaging department, currently in the Barry building which is no longer fit for purpose, is provided in the shortest possible time in Stage 1 of the build, together with Trauma and Neurosciences. The new Cancer Centre is not delivered until Stage 2 of the build is completed however, which is a significant disadvantage for this service, but, given that the build has to be phased due to the constrained site, on balance this is considered to be the best build sequence that can be achieved. Way-finding on the site, which is currently a significant shortcoming, is also greatly improved.

#### **Option 3**

- 7.7.4 Option 3 ranked second, but scored noticeably below Option 1. This Option delivers all of the strategic objectives and arguably, better clinical adjacencies for some departments, such as, for example, between the new Trauma facilities and A&E. This option does however present several significant disadvantages compared with Option 1. Firstly, the build sequence means that the new Cancer Centre would have to be built first, in a very constrained site behind the existing Barry building. This means that the existing poor inpatient and imaging accommodation in the Barry building would not be re-provided until Stage 2 of the build, together with Trauma and Neurosciences, which, in terms of urgency of need is considered to be sub-optimal. Secondly, the new Cancer Centre would be built in a very constrained site behind the Barry building, which, while feasible in overall space terms would impose significant limitations on floor layouts with a significant risk that this would compromise functional adjacencies and therefore the operational functioning of the unit. Thirdly, there were concerns that the massing and height of the proposed Stage 2 build on the South East corner of the RSCH site could present difficulties with obtaining statutory planning approval. Way-finding would be greatly improved, similar to Option 1.

#### **Option 5**

- 7.7.5 Option 5 ranked third, but only slightly below Option 3. This option delivers the service objectives for Trauma, Neurosciences and Cancer, but retains and extends the Barry building for its existing use, accommodating medical wards and imaging. The overwhelming consensus view was that retaining and extending the Barry building would not deliver the badly needed qualitative improvements that are long overdue, particularly for care of the elderly inpatients, and this would therefore be a

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major opportunity missed as well as being a poor investment. There were also similar concerns expressed about the massing and height of the building, which would be even greater than Option 3, with the risk of not obtaining statutory planning approval. Way-finding is, again, greatly improved in this option.

### **Do Minimum A**

- 7.7.6 This option was ranked last by a very wide margin as it does not achieve any of the service improvement objectives set out in the 3Ts Strategic Outline Case. No additional Trauma facilities are provided and Neurosciences remains at PRH, so two key service objectives of the scheme would not be delivered. A refurbished Barry building (180 years old) still retains the majority of its attendant problems in respect of cramped accommodation which falls well short of current space and environmental standards and is no longer fit for purpose. This gives rise to significant privacy, dignity shortcomings for the current 168 inpatient beds and daily challenges in respect of operational management and infection control.

### **Do Minimum B**

- 7.7.7 This option was ranked fourth, but well below Options 1, 3 and 5 because, again, it does not deliver any additional Trauma facilities and retains the Barry building which, even if refurbished, is no longer fit for purpose. It is marginally better than Do Minimum A because neurosciences would be relocated from PRH to the RSCH, achieving one of the service improvement objectives, but the other objectives are essentially unmet.

### **7.8 Sensitivity Analysis**

- 7.8.1 The result of the Benefits Appraisal has been subjected to a sensitivity analysis using specialised software. The table overleaf shows the results that were generated.

**Figure 7.13 Sensitivity Analysis Results**

	<b>Weights</b>	<b>Option 1</b>	<b>Option 3</b>	<b>Option 5</b>	<b>Do Min A</b>	<b>Do Min B</b>
1. Strategic Fit	--	--	--	--	--	--
2. Clinical Outcomes	--	--	--	--	--	--
3. Appropriate Facilities (and Facilities Management)	--	Reduce average score to zero	--	--	--	--
4. Access to Services	--	--	--	--	--	--
5. Teaching, Training and Research	--	--	--	--	--	--
6. Use of Resources	--	--	--	--	--	--
7. Operational Management	--	--	--	--	--	--
8. Development and Implementation	--	--	--	--	--	--
<b>TOTAL</b>	<b>100</b>					

- 7.8.2 The outcome of the analysis shows that Option 1 scored highest in every benefit and the only change that would alter the results is if the average score for benefit 3 – ‘Appropriate Facilities (and Facilities Management)’ reduced from 8.3 to 0. This change would make option 3 the preferred option; however the change is unrealistic given the assumptions of option 1.
- 7.8.3 This therefore gives confidence that the outcome of the non-financial appraisal is robust.

#### Non-Financial Benefits Appraisal – Conclusions

- The Trust and its partners, have considered an exhaustive series of options for delivering the key investment objectives;
- The process of moving from a shortlist to a preferred option involved over 50 Trust staff, local partners and patient group representatives;
- The preferred option – based on a non-financial analysis was Option 1. This choice can be considered to be robust as it does not change under a range of plausible scenarios and was based on a multi-disciplinary workshop.
- Within the FBC the options including the revised option 1 will subsequently be reappraised.