Health Overview and Scrutiny Committee Panel: Children’s Heart Surgery Consultation

‘Safe and Sustainable: A New Vision for Children’s Congenital Heart Services in England’ – the case made in the Consultation Document and Pre Consultation Business Case

1 Introduction
NHS Specialised Services have undertaken a ‘Safe and Sustainable’ review of Children’s Congenital Cardiac Services in England at a national level, and put proposals for change to a Joint Committee of PCT’s. The proposals are out to public consultation between 28 February and 1 July 2011. The consultation covers four aspects:

- Development of congenital heart networks
- Implementation of new clinical standards
- New systems for analysis and reporting of mortality and morbidity data
- Reduction in number of hospitals providing children’s heart surgery from 11 to 6 or 7

Background

2 History
The safety and sustainability of the current arrangements for paediatric cardiology have been a concern for the past 10 years. Back in 2001 an Inquiry (led by Sir Ian Kennedy) reported on problems experienced at the Bristol Royal Infirmary, and called for children’s heart surgery to be undertaken in fewer specialist centres. This was followed up in 2003 by recommendations from the Paediatric and Congenital Cardiac Services Review Group also backing fewer larger centres. In 2006 an extraordinary meeting of the 11 existing surgical centres concluded that the current service was not sustainable. The call for fewer larger centres was reiterated by the Royal College of Surgeons in 2007, and in 2008 the Safe and Sustainable review was set up which has resulted in the current proposals.

3 The Case For Change
A number of studies indicate a relationship between volumes of procedures and favourable outcomes in children’s heart surgery. A literature review was carried out independently by the Public Health Resource Unit to feed in to the ‘safe and sustainable’ review, which concluded that ‘there is an inverse relationship between volume and inpatient hospital mortality which increased with the complexity of the operation’. However, ‘the scientific papers reviewed do not provide sufficient evidence to make firm recommendations regarding the cut off point for minimum volume of activity for paediatric cardiac procedures overall, or for specific procedures at an institutional level’. The recommendation of 500 procedures per centre (125 per surgeon) is therefore based on the consensus of the professional societies.

A minimum number of 4 surgeons per centre is recommended. This is to ensure sufficient cover to provide high quality 24 hour care. With less surgeons, there is a chance of individuals taking on heavy workloads in cover situations e.g. when a colleague is on leave, sick, or undertaking research or training.

Strengthening networks is recommended on the basis that non surgical cardiology care in local hospitals is currently inconsistent.

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1 The Joint Committee of PCT’s comprises the Chair of each of the 10 Specialised Commissioning Groups in England and the Director of National Specialised Commissioning.
2 Quote from page 18 of the Consultation Document
Consultation Question: Do you agree that without change there is a risk of services becoming neither safe nor sustainable?

4 Principles
The proposals have been developed based on the following 5 principles:

- The need of the child comes first in all considerations
- All children who need heart surgery must receive the highest standards of care
- The same high quality of service must be available to each child regardless of where they live or which hospital provides their care
- The care delivered must be based around the needs of each child and family
- Other than surgery and interventional procedures, all relevant cardiac treatment should be provided by competent experts as close as possible to the child’s home

Consultation Question: to what extent do you agree with these principles?

5 Review Process
Engagement has been undertaken during the development of the proposals with parent and patient groups, particularly through the Children’s Heart Federation, including focus groups and surveys. The analysis of responses from parents ‘suggested support for the aims of the review’ and indicated their particular concerns were: Accommodation for families, childcare, cost of travel and time off work. It also indicated survival and quality of life was the most important priority for parents and travel distance was the least important priority.

A national stakeholder event took place in October 2009 at which models of care and the strength of the case for change were discussed. The clinical standards were informed by extensive engagement between September 2009 and February 2010. Ten public engagement events were also held in 2010, during which concerns were raised around accommodation for families, continuity of care and retention of skilled surgeons and support staff.

The Proposals

6 Standards
New national standards are proposed, around seven themes:

- **Congenital Heart Networks** – the assessment of the current situation indicated that arrangements between services were often the result of informal relationships, and in some cases care was not as well organised as it could be. The proposal is that more formal networks should be created that link up all relevant services, led by the designated surgical centre.
- **Prenatal Diagnosis** – existing data indicates that prenatal diagnosis that children will require treatment in the first year of life varies considerably across the country. The proposal is that in future congenital heart networks would have to meet the Fetal Cardiology Standards developed by the British Congenital Cardiac Association.
- **Specialists Surgical Centres** – smaller centres can mean surgeons don’t gain experience as they undertake fewer procedures, providing 24 hour cover can be difficult, they may be isolated from learning best practice etc. The proposal is to reduce the number of surgical centres and consolidate expertise in larger centres, with at least 4 surgeons per centre (who will be undertaking more procedures per year).
- **Age Appropriate Care** – The assessment suggested transition planning between young people’s and adults services was variable, and that this could be improved e.g. by
requiring all congenital heart networks to have a dedicated transition nurse. (note: the
NHS is also reviewing the provision of adult congenital heart services, starting in 2011. It
is proposed to apply the same principles to this review).

- **Information and Making Choices** – parents indicate their impression that the different
services that see children with congenital heart disease could be more joined up. It is
proposed that parents should have the opportunity to visit the centre where their child is
due to have an interventional procedure and meet the staff, and children would have their
own care record to avoid parents having to relay the same information to different
services. Parents will be able to choose where their child will be treated ‘even if
sometimes this means travelling further…it is the responsibility of the NHS in England to
accommodate choice’.

- **Family Experience** – currently support for families is inconsistent. In future it is
suggested a minimum of 7 full time children’s cardiac specialist nurses would support
families in each congenital heart network, and there would be greater consistency in how
staff are trained to communicate with parents.

- **Ensuring Excellent Care** – some existing surgical centres could do better in terms of
research. In future centres would share learning, be required to have a formal research
strategy and their staff undertake continual professional development.

**Consultation Question:** do you support these standards?

### 7 Networks

There is concern that the various NHS services that see children with Congenital Heart Disease
could work together better. It is proposed to develop more robust managed clinical networks to
address this, made up of 3 main elements:

- **Specialist Surgical Centres** – would be the only places providing interventional care
  with a specially designed and equipped theatre.

- **Children’s Cardiology Centres** – centres that currently provide surgery but are de-
  designated in future, would provide outreach clinics and the full range of non
  interventional care.

- **District Children’s Cardiology Services** – local hospitals with maternity units dealing
  with over 3,000 births a year, would provide diagnostic and follow up care.

The intention is for ‘the provision of non-interventional assessment and ongoing care… closer to
home’. It is suggested that clinical protocols be established which would ‘usually mean…
Children’s Cardiology Centres would refer all children who require heart surgery or cardiology
interventions to the designated Specialist Surgical Centre in its own network unless this was not
clinically appropriate’. However, it is noted the ‘patient choice’ agenda would be upheld as
‘parents…would remain able to exercise choice regarding any of the services in the national
network’.

Maps are provided in the consultation materials showing the expected catchment area for each
Network (therefore each of the remaining surgical centres) under each configuration being
considered (see Appendix 1).

### 8 Quality Monitoring

All congenital heart services in the UK currently submit data to the Central Cardiac Audit
Database (CCAD) which is validated and published online. While the current level of monitoring
‘is considered to be amongst the best in the world’ a number of stakeholders wished to take this
opportunity to further improve monitoring. Currently the data is not ‘real time’ as the validation
process can take up to two years, and morbidity data is not collected which is another indicator of quality. It is suggested that in future units performing surgery should implement ‘real time’ alert systems, and commissioners should develop a system for reporting on morbidity data (aiming for routine reporting by 2013).

9 Fewer, Larger Centres
The incidence of congenital heart disease results in around 3,600 paediatric cardiology surgical procedures being performed in England each year. At the time of the review, 11 surgical centres undertook cardiac surgery, with annual procedure levels per centre ranging from 108 to 555. The 11 centres at that time were as follows:

- Great Ormond Street Hospital NHS Trust
- Guys and St Thomas’ NHS Foundation Trust (Evelina Children’s Hospital)
- Royal Brompton and Harefield NHS Foundation Trust
- Southampton University Hospitals NHS Trust
- Oxford Radcliffe Hospitals NHS Trust
- University Hospitals Bristol NHS Foundation Trust
- Birmingham Children’s Hospital NHS Foundation Trust
- University Hospitals of Leicester NHS Trust
- Newcastle Upon Tyne Hospitals Foundation Trust
- Alder Hey Children’s Foundation Trust (Liverpool)
- Leeds Teaching Hospital NHS Trust

Based on the suggested procedure levels of at least 500 per centre, this would suggest redistributing patients in future between 6 or 7 surgical centres. Analysis has been undertaken on the different options for future configurations of centres. Four options are being consulted on which are as follows:

10 Centre Configuration Options

A: 7 centres at
- Freeman Hospital, Newcastle
- Alder Hey Children’s Hospital, Liverpool
- Glenfield Hospital, Leicester
- Birmingham Children’s Hospital
- Bristol Royal Hospital for Children
- 2 centres in London

Note: this option comes out as best based on the options analysis (see further detail below)

B: 7 centres at
- Freeman Hospital, Newcastle
- Alder Hey Children’s Hospital, Liverpool
- Birmingham Children’s Hospital
- Bristol Royal Hospital for Children
- Southampton General Hospital
- 2 centres in London

Note: this option is included on the basis that it includes the top 2 centres in London and the top 5 of the centres outside London, according to the assessment score from the panel led by Sir Ian Kennedy.
C: 6 centres at
- Freeman Hospital, Newcastle
- Alder Hey Children’s Hospital, Liverpool
- Birmingham Children’s Hospital
- Bristol Royal Hospital for Children
- 2 centres in London

D: 6 centres at
- Leeds General Infirmary
- Alder Hey Children’s Hospital, Liverpool
- Birmingham Children’s Hospital
- Bristol Royal Hospital for Children
- 2 centres in London

Consultation Question: To what extent do you support each of the 4 proposed options for locations of centres in future?

London: Of the 3 centres currently in London, it is suggested that Evelina Children’s Hospital and Great Ormond Street Hospital for Children retain surgery. (therefore Royal Brompton and Harefield would no longer offer paediatric cardiac surgery). Brompton scored lower than the other two London centres on weighted scores in relation to Quality and Deliverability (see page 96 of the consultation document).

Note: Evelina scored highest of all the centres in the assessments by the Kennedy panel. Royal Brompton and Great Ormond Street scored equally (joint 4th overall among the 11 centres considered).

Consultation Question: do you support 2 centres in London and the choice of which two?

Of the centres outside London, the extent to which they are included in the options is as follows:

4 of 4 Alder Hey Children’s Hospital, Liverpool
4 of 4 Bristol Royal Hospital for Children
4 of 4 Birmingham Children’s Hospital
3 of 4 Freeman Hospital, Newcastle
1 of 4 Leeds General Infirmary
1 of 4 Glenfield Hospital, Leicester
1 of 4 Southampton General Hospital
0 of 4 Oxford Radcliffe

Note: Oxford is not considered in any of the options because surgery was suspended at the Oxford Radcliffe Hospital in January 2010, due to safety concerns. Oxford Radcliffe was scored by the assessment panel and received the lowest score of the 11 centres.
How The Proposals Were Arrived At

11 Options Analysis
It was identified that there were 2047 theoretical configuration options, so analysis was undertaken against various criteria to shortlist viable options. The key criteria were:

- each site should carry out a minimum of 400 procedures per year moving towards 500 (in line with the proposed standards)
- they would be included in options in order of their assessment panel ranking
- they should provide ‘best fit’ in terms of access

This resulted in a shortlist of 14 potential options which were then analysed further in terms of access mapping and activity redistribution (see below).

12 Centre Assessment Scores
Between March and May 2010 each existing surgical centre was asked to undertake a self assessment to demonstrate their current and future compliance against core designation standards, taken from the proposed clinical standards (see section 6 above). Other aspects were also considered that would enable a centre to move from their current set up to the proposed structure, such as leadership and deliverability. The criteria were therefore as follows, weighted in the following order (figure in brackets gives the potential maximum score for that criteria):

- Staffing and Activity (130)
- Leadership and Strategic Vision (120)
- Deliverability and Achievability (75)
- Strength of Network (70)
- Interdependent Services (70)
- Facilities and Capacity (70)
- Ensuring Excellent Care (60)
- Age Appropriate Care (45)
- Information and Choices (45)

The maximum points available was therefore 685. Following the self assessment, an on site assessment was undertaken of each centre between May and June 2010 by a panel of experts led by Sir Ian Kennedy. The outcome of this process was that the 11 centres were scored as follows³:

<table>
<thead>
<tr>
<th>Hospital/Surgical Centre</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guys and St Thomas’ NHS Foundation Trust (Evelina Children’s Hospital)</td>
<td>535</td>
</tr>
<tr>
<td>Southampton University Hospitals NHS Trust</td>
<td>513</td>
</tr>
<tr>
<td>Birmingham Children’s Hospital NHS Foundation Trust</td>
<td>495</td>
</tr>
<tr>
<td>Great Ormond Street Hospital NHS Trust</td>
<td>464</td>
</tr>
<tr>
<td>Royal Brompton and Harefield NHS Foundation Trust</td>
<td>464</td>
</tr>
<tr>
<td>University Hospitals Bristol NHS Foundation Trust</td>
<td>449</td>
</tr>
<tr>
<td>Newcastle Upon Tyne Hospitals Foundation Trust</td>
<td>425</td>
</tr>
<tr>
<td>Alder Hey Children’s Foundation Trust (Liverpool)</td>
<td>420</td>
</tr>
<tr>
<td>University Hospitals of Leicester NHS Trust</td>
<td>402</td>
</tr>
<tr>
<td>Leeds Teaching Hospital NHS Trust</td>
<td>401</td>
</tr>
<tr>
<td>Oxford Radcliffe Hospitals NHS Trust</td>
<td>237</td>
</tr>
</tbody>
</table>

A key part of the options analysis was the extent to which each centre could be expected to reach the minimum procedure level in different configurations. The data used in the analysis is based on 09/10 procedure levels, at which time Oxford Radcliffe was operational. Procedure levels at that time were as follows:

<table>
<thead>
<tr>
<th>Hospital/Surgical Centre</th>
<th>Procedure Numbers</th>
<th>Surgeon Numbers</th>
<th>Approx procedures per surgeon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birmingham Children’s Hospital NHS Foundation Trust</td>
<td>555</td>
<td>3</td>
<td>185</td>
</tr>
<tr>
<td>Great Ormond Street Hospital for Children NHS Trust</td>
<td>541</td>
<td>4</td>
<td>135</td>
</tr>
<tr>
<td>Alder Hey Children’s Foundation Trust</td>
<td>400</td>
<td>3</td>
<td>133</td>
</tr>
<tr>
<td>Royal Brompton and Harefield NHS Foundation Trust</td>
<td>353</td>
<td>4</td>
<td>88</td>
</tr>
<tr>
<td>Guys and St Thomas’ Hospitals NHS Foundation Trust</td>
<td>337</td>
<td>3</td>
<td>112</td>
</tr>
<tr>
<td>Leeds Teaching Hospital NHS Trust</td>
<td>316</td>
<td>3</td>
<td>105</td>
</tr>
<tr>
<td>University Hospitals Bristol NHS Foundation Trust</td>
<td>277</td>
<td>3</td>
<td>92</td>
</tr>
<tr>
<td>Newcastle Upon Tyne Hospitals Foundation Trust</td>
<td>255</td>
<td>2</td>
<td>127</td>
</tr>
<tr>
<td>University Hospitals of Leicester NHS Trust</td>
<td>225</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Southampton University Hospitals NHS Trust</td>
<td>231</td>
<td>2</td>
<td>115</td>
</tr>
<tr>
<td>Oxford Radcliffe Hospitals NHS Trust</td>
<td>108</td>
<td>1</td>
<td>108</td>
</tr>
</tbody>
</table>

In order to predict patient flows in scenario’s where 4 or 5 centres no longer offer surgery, data was used based on population density, and catchment areas that assume patients use their nearest surgical centre. On this analysis, it is suggested that the Bristol and Southampton centres are mutually exclusive, as the model suggests neither would have a catchment enabling the minimum of 400 procedures per year in a model where both remained. The model suggests the population density in the North of England would only support 2 of the 3 existing centres for the same reason.

The initial analysis shortlisted 12 options. However, the Joint Committee of PCT’s requested that 2 additional options be added based on the highest scoring centres from the Kennedy Panel assessments ‘and to take account of emerging local intelligence about the impact of patient flows in South Central England as a result of the suspension of the …service….in Oxford’. Option B is one of these, comprising the top 7 sites in terms of assessment score (however substituting the 8th best for one of the London centres to avoid only having one centre in the north of England).

This then resulted in 14 options. These options were analysed in terms of potential redistributed activity. Alternative options that included Southampton were then ruled out due to predicted redistributed activity being too uneven e.g. some centres not likely to reach 400 or some centres likely to exceed their stated maximum capacity. The assumed distribution of activity for centres under the options being consulted on are as follows:

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4 Pre consultation business case document page 60
Predicted number of procedures per year per centre

<table>
<thead>
<tr>
<th>Option</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liverpool</td>
<td>445</td>
<td>445</td>
<td>445</td>
<td>400</td>
</tr>
<tr>
<td>Birmingham</td>
<td>472</td>
<td>725</td>
<td>725</td>
<td>660</td>
</tr>
<tr>
<td>Bristol</td>
<td>420</td>
<td>360</td>
<td>420</td>
<td>420</td>
</tr>
<tr>
<td>Newcastle</td>
<td>406</td>
<td>526</td>
<td>526</td>
<td></td>
</tr>
<tr>
<td>Leeds</td>
<td></td>
<td></td>
<td></td>
<td>636</td>
</tr>
<tr>
<td>Oxford</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southampton</td>
<td></td>
<td></td>
<td>382</td>
<td></td>
</tr>
<tr>
<td>Leicester</td>
<td></td>
<td>414</td>
<td></td>
<td></td>
</tr>
<tr>
<td>London 1</td>
<td>721</td>
<td>580</td>
<td>741</td>
<td>741</td>
</tr>
<tr>
<td>London 2</td>
<td>721</td>
<td>580</td>
<td>741</td>
<td>741</td>
</tr>
<tr>
<td>London 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14 Retrieval

Another part of the analysis looked at travel times for patients to their nearest centre. Retrieval is where patients need to be transferred from a local hospital to a specialist surgical centre for emergency surgery. The Paediatric Intensive Care Society ‘Standards for the Care of Critically Ill Children’ (2010) state that ‘The retrieval team should arrive at the referring unit within 3 hours (extended to 4 hours in remote areas)’. An alternative option that included Southampton but not Bristol was ruled out due to retrieval times for parts of Cornwall and South Wales being over the standard maximum.

15 Access

As a result of the above short listing, 6 options remained. Analysis was undertaken of travel times for patients attending scheduled surgery. Travel times were considered by how long it would take patients to reach their nearest centre (by car). Options were compared by overall travel times, and by the number of patients whose journey would increase by different amounts compared to the current situation:

Patient Travel Times

<table>
<thead>
<tr>
<th></th>
<th>Current Configuration</th>
<th>Option A</th>
<th>Option B</th>
<th>Option C</th>
<th>Option D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Up to 1 Hour</strong></td>
<td>2352</td>
<td>1958</td>
<td>1946</td>
<td>1875</td>
<td>1934</td>
</tr>
<tr>
<td><strong>1-2 Hours</strong></td>
<td>1000</td>
<td>1194</td>
<td>1091</td>
<td>1140</td>
<td>1215</td>
</tr>
<tr>
<td><strong>2-3 Hours</strong></td>
<td>168</td>
<td>376</td>
<td>465</td>
<td>486</td>
<td>380</td>
</tr>
<tr>
<td><strong>3-4 Hours</strong></td>
<td>65</td>
<td>57</td>
<td>83</td>
<td>82</td>
<td>56</td>
</tr>
<tr>
<td><strong>Over 4 Hours</strong></td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3598</td>
<td>3598</td>
<td>3598</td>
<td>3598</td>
<td>3598</td>
</tr>
</tbody>
</table>
Patients who experience an increase in travel times

<table>
<thead>
<tr>
<th></th>
<th>Current Configuration</th>
<th>Option A</th>
<th>Option B</th>
<th>Option C</th>
<th>Option D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase of up to 30 mins</td>
<td>2975</td>
<td>3005</td>
<td>2975</td>
<td>3090</td>
<td>3080</td>
</tr>
<tr>
<td>Increase of 30-90 mins</td>
<td>475</td>
<td>468</td>
<td>475</td>
<td>377</td>
<td>294</td>
</tr>
<tr>
<td>Increase of over 90 mins</td>
<td>148</td>
<td>126</td>
<td>148</td>
<td>130</td>
<td>224</td>
</tr>
<tr>
<td>Total</td>
<td>3598</td>
<td>3598</td>
<td>3598</td>
<td>3598</td>
<td>3598</td>
</tr>
</tbody>
</table>

This indicates that the number of patients needing to travel for over 4 hours is the same across all options. In discussion of the travel times data it is noted that ‘Options including Oxford do not improve access times. The most significant (negative) impact on access times is due to whether Bristol is present in an option or not’\(^5\). In order to compare options, the analysis focuses on the percentage of patients who would see an increase in travel time of more than 1.5 hours (see top line of table at Appendix 2). Options A and D are considered best in terms of access as only 3.6% of patients would have this level of increase. For Options B and C 6.2% would be affected in this way.

**Note:** the consultation document indicates that 88.4% of children only have one intervention (and therefore the majority would only need to travel to a specialist surgical centre once).

### 16 Interdependent Services

Paediatric cardiac patients can constitute a significant proportion of Paediatric Intensive Care Unit (PICU) admissions, therefore the review considered the potential impact of de-designation on existing surgical centre’s PICU facility. The analysis indicated some PICUs would become unviable as a consequence of losing paediatric surgery (Leicester, Freeman and Brompton). However, these cities have existing alternative PICU provision for non-cardiac admissions, therefore this is considered to present ‘limited risk to local and national PICU provision’.

All other PICUs would remain viable. However, it is also noted that the ability of smaller PICUs to maintain retrieval services would need to be considered, as would the impact on designated centres needing to retrieve patients from larger geographical areas.

It is also noted that the Critical Interdependencies Framework identifies four clinical services (other than paediatric cardiology) that have a relationship with paediatric cardiac surgery: oncology, major trauma, ENT airway and specialised paediatric surgery. However, these are identified as having an ‘amber’ relationship and therefore do not necessarily require co-location. The Framework does not consider paediatric cardiac surgery to be a core service upon which those services are reliant, therefore it has been concluded that the removal of paediatric cardiac surgery does not threaten the viability of any of those four services.

### 17 Adult Cardiac Surgery

Once a young person reaches 16 they become a Grown Up Congenital Heart patient (GUCH). GUCH services are due to be reviewed following this review using the same principles. However, it is being assumed ‘that the GUCH patients will flow the same way as the paediatric surgical cases from the centres that cease surgery to the new Congenital heart Networks’\(^6\). GUCH

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\(^5\) Business case document page 261  
\(^6\) Pre Consultation Business Case document page 125
procedure levels for 08/09 currently and predicted levels under each option out for consultation are given as follows:

<table>
<thead>
<tr>
<th>Centres</th>
<th>Current Procedure Numbers</th>
<th>Option A</th>
<th>Option B</th>
<th>Option C</th>
<th>Option D</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>200</td>
<td>241</td>
<td>205</td>
<td>241</td>
<td>246</td>
</tr>
<tr>
<td>Birmingham</td>
<td>19</td>
<td>19</td>
<td>75</td>
<td>80/60</td>
<td>40</td>
</tr>
<tr>
<td>Bristol</td>
<td>65</td>
<td>106</td>
<td>73</td>
<td>106</td>
<td>106</td>
</tr>
<tr>
<td>Liverpool</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Leicester</td>
<td>41</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leeds</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
<td>159</td>
</tr>
<tr>
<td>Newcastle</td>
<td>88</td>
<td>124</td>
<td>124</td>
<td>124/144</td>
<td></td>
</tr>
<tr>
<td>Southampton</td>
<td>66</td>
<td></td>
<td></td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Oxford</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other centres</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Total</td>
<td>858</td>
<td>858</td>
<td>858</td>
<td>858</td>
<td>858</td>
</tr>
</tbody>
</table>

18 Nationally Commissioned Services
Three related services are nationally commissioned and need to be located where there is appropriate surgical back up. The review took into account that the future configuration of surgical centres would need to maintain the provision of these services to a high quality and ‘with good geographical access’. An independent assessment panel scored the current providers, and other centres who made an application to host these services in future.

- **Paediatric Cardiothoracic Transplantation and Mechanical Device as a Bridge to Heart Transplantation** – currently provided at Newcastle and GOSH, panel considered these two best with Birmingham a possibility.

- **Extracorporeal Membrane Oxygenation (ECMO) for severe respiratory failure** – currently provided at Newcastle, Leicester and GOSH, panel considered these three best with Birmingham and Bristol possible. It was noted that Adult ECMO is provided at Leicester and would be vulnerable if paediatric ECMO was moved.

- **Complex Tracheal Surgery** – currently provided at GOSH, panel did not have confidence in any other centre taking this on.

The above assessments were taken into account in terms of centres inclusion in potential reconfiguration options.

19 Overall Ranking of Options
Weightings were applied to the criteria for ranking the options, informed by stakeholders views on priority of different aspects. Stakeholders included specialised commissioning group directors, parents and clinicians, and all had similar views. This resulted in the following ranking:

1 Quality
2 Deliverability
3 Sustainability
4 Access and travel times

Each of the options being analysed at this point were awarded a score for each of the above aspects from 1-4 depending on the extent to which the criteria was met. The score for each aspect
was then multiplied to reflect the weighting given to that aspect. This results in the 4 options out for consultation being ranked as shown below:

(Highest scoring of weighted scores on the left to lowest scoring on the right)

A table that outlines the pro’s and con’s of the 4 options out for consultation is attached at Appendix 2.

Note: When scoring is applied to the different options based only on the key quality criteria (clinical networks, innovation and research, high quality service, total score for quality), Option B ‘performs better than the other options’.

20 Affordability
It is stated that the core objective of the review is to improve services ‘not for the purposes of achieving financial savings’. Nevertheless, an assessment of costs was undertaken. It is noted ‘there is consensus within the Finance Group that…the potential shortlist of 4 options for consultation are affordable’. The pre-consultation business case recommends that option A ‘suggests best value for money as it requires the least capital investment and leaves the least legacy cost of the proposed short listed options’.

The total set up costs for the centres included in the options under consultation are predicted to be as follows (based on information provided by the centres):

Option A: £11,785
Option B: £22,967
Option C: £25,325 or £17,287
Option D: £18,758

The impact of de designation is also considered, in terms of surplus capacity and knock on implications for other services. The total legacy costs are estimated for centres de designated in each option as follows:

Option A: £31,083
Option B: £40,164
Option C: £46,217
Option D: £53,278

Leicester Newcastle and Royal Brompton are shown to have high legacy costs due to the fact that de designation ‘may have significant impacts on other services’. In the case of Leicester and Newcastle this is largely related to the nationally commissioned services undertaken there (see section 18 above).

7 Business case document page 268
8 See Business case document page 79 – option C was subdivided as 6A and 6B earlier in the analysis
Outline costs of implementation and transitional costs (over a 2 year period) are given as follows:

Option A: £30,110  
Option B: £44,016  
Option C: £48,190 or £40,152  
Option D: £45,741

21 Workforce Implications  
It is noted that workforce issues constitute a risk to the deliverability of the proposals, due to reliance on the decisions of a small number of individuals who currently undertake paediatric cardiac surgery. It is noted ‘one of the key challenges for the NHS in the implementation phase…is how to manage the transition from surgical unit to non surgical unit and the potential movement of key staff away from these centres’. Reputational issues are also alluded to ‘a further challenge…is to ensure that staff and patients…do not consider these units [those that are de designated] to have been downgraded in any way’.

Note: It is suggested that ‘Redundancy, legacy costs and other staffing costs would also need to be met from savings’.

22 Key Future Stages  
The consultation period runs until 1\textsuperscript{st} July 2011. Responses are requested using a hard copy response form or the online equivalent. Consultation events are also taking place across the Country during the consultation period. An event is due to take place in Southampton on Tuesday 24 May 2011 (6-8pm at The Guildhall - part of the Civic Centre). Due to demand an additional session has been put on at 3pm to 5pm that day. Both sessions are now full to capacity and the organisation running the consultation currently has no plans to put on any more in the Southampton area. Three events specifically targeted at young people are also taking place in London, Birmingham and York.

Responses will then be collated and analysed by an independent body (Ipsos Mori). A summary of the responses will be published and considered by the Joint Committee of PCT’s in Autumn 2011, who are expected to take a decision on the proposals in Winter 2011. Implementation of the changes is expected to be in 2013.

Background documents and details of how to respond to the consultation are available from the Safe and Sustainable website:


\footnote{Business case document page 84}
# Factors

## Option A
- **Access and Journey Times**
  - % who would see an increase in travel time of more than 1.5 hours: +3.6%

## Option B
- **Retrieval Times**
  - Compliant with Paediatric Intensive Care Society standards

## Option C
- **Number of Procedures**
  - 400+

## Option D
- **Managed Clinical Networks**
  - Compliant with Paediatric Intensive Care Society standards

## Quality
- Does not retain higher ranked centres

## Research and Innovation
- Includes the highest ranking centres with the exception of Southampton General Hospital

## Relocation of Three Highly Specialised Nationally Commissioned Services
- Children's heart transplantation in two centres
- Services retained in current location
- Complex tracheal surgery in one centre
- Services retained in current location
- ECMO services for children with severe respiratory failure in at least three centres
- Services retained in current location

## Paediatric Intensive Care Units
- Impact on two centres: Leeds General Infirmary and Southampton General Hospital would see a reduction in PICU admissions

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All networks are potentially viable subject to further analysis of networks under option B.

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**Option B**
- Best option for retaining centres ranked highest for quality

**Option C**
- Does not retain higher ranked centres

**Option D**
- Does not retain higher ranked centres

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**Option B**
- Includes the five highest ranking centres

**Option C**
- Includes the highest ranking centres with the exception of Southampton General Hospital

**Option D**
- Includes the highest ranking centres with the exception of Southampton General Hospital

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**Option B**
- Services retained in current location

**Option C**
- Services retained in current location

**Option D**
- Services retained in current location

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**Option B**
- Services retained in current location

**Option C**
- Services retained in current location

**Option D**
- Services retained in current location

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**Option B**
- ECMO services would need to be relocated from the Glenfield Hospital in Leicester

**Option C**
- ECMO services would need to be relocated from the Glenfield Hospital in Leicester

**Option D**
- ECMO services would need to be relocated from the Glenfield Hospital in Leicester and the Freeman Hospital in Newcastle

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**Option B**
- Impact on two centres: Leeds General Infirmary and Southampton General Hospital would see a reduction in PICU admissions

**Option C**
- Impact lessened

**Option D**
- Impact lessened

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*Appendix 2*