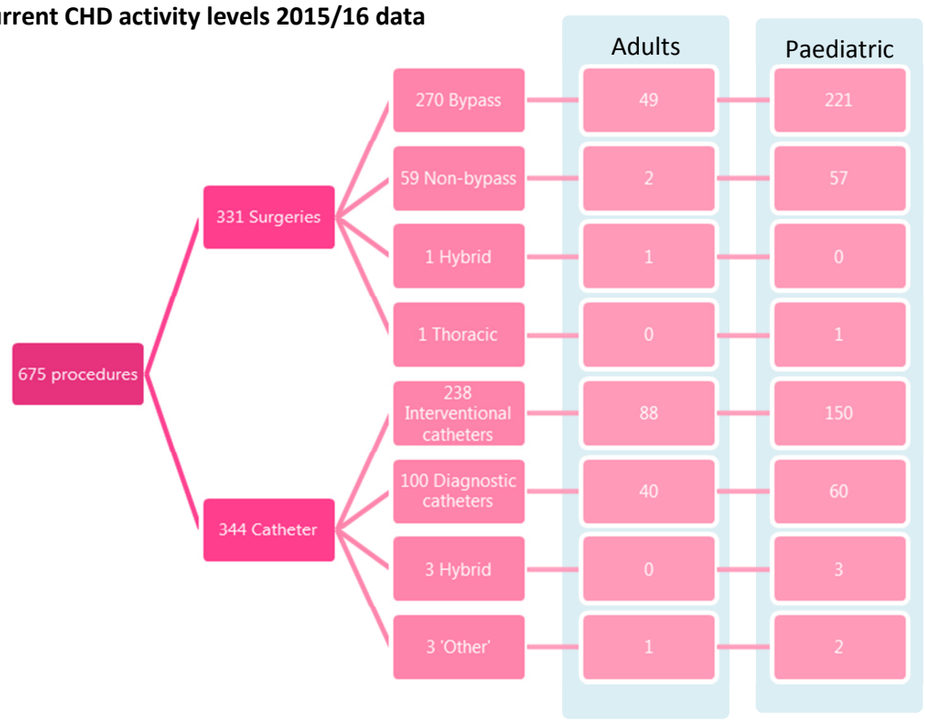
CHD Impact Assessment University Hospitals of Leicester NHS Trust
7th November 2016

## 1. CHD activity levels

### 1.1 Current CHD activity levels 2015/16 data




### 1.2 Inpatient activity paediatrics

In 2015/16 our dedicated children's cardiac ward had a total of 2938 bed days, which equates to 1044 individual patient ward episodes

### 1.3 Adult inpatient activity

Adult inpatient activity is more difficult to extract from overall adult service activity, as such, detailed analysis of exact adult activity takes time to produce. We therefore require an extension to the timeframe for response.

### 1.4 Outpatient activity

EMCHC currently provide, In House**;** 1904 ACHD cardiology and surgical appointments per annum and 8642 paediatric cardiology and surgical appointments per annum

In addition we provide 322 Network clinic sessions per annum (254 paediatric and 68 ACHD). This equates to approximately 4000 additional clinic appointments per annum

**1.5 Projected CHD activity levels if our proposals were to be implemented and basis for those projections.**

Based on meeting the necessary standards for delivery of CHD services, it is our estimation that the following services would cease to be delivered at UHL.

| Paediatric Congenital Heart Disease services | Rationale |
|---|---|
| Congenital Heart Disease Surgery | Decommissioned |
| All catheterisation i.e.<br>Diagnostic<br>Interventional<br>Electrophysiological<br>Diagnostic/ablation<br>Pacing | Decommissioned |
| All GA required procedures on cardiac patients<br>MRI<br>Dental<br>Spinal<br>Gynae<br>Gen surgical | All of these procedures would require a consultant paediatric cardiac anaesthetist. We would not have access to this speciality without the provision of cardiac surgery at UHL |
| PICU – Glenfield | Without cardiac surgery paediatric cardiac critical care beds would not be commissioned nor would we be able to retain the calibre of staff to provide this level of care |
| Ward 30 Glenfield | Some bed provision would need to be offered within the Children's Hospital but all of the beds at GH would be lost |
| All immediately pre/post-operative outpatient appointments | Our assumption is that these would be provided by the Level 1 centre and operating surgeons |
| Emergency lifesaving cardiac procedures<br>Septostomy<br>Pericardiocentisis | These procedures are performed by cardiac surgeons or interventional cardiologists , and as such would be performed at the Level 1 centre |
| PDA Ligation service | The standards require this to be provided by a Level 1 centre |
| Trans oesophageal echo cardiology | Needs a cardiac anaesthetist |
| Training status and revenue for cardiology training above Sp4 | Training standards and curricula could not be met outside a Level 1 surgical centre and as such our ability to train would be lost |
| Paediatric ECMO<br>Mobile ECMO | This service is dependent upon the availability of congenital cardiac surgeons , assessment of the degree of impact will be provided by the independent review process |
| **Adult Congenital Heart Disease Services** | **Rationale** |
| Adult congenital heart disease surgery | De commissioned |
| All catheterisation except simple diagnostic procedures and ASD/PFO closure in low risk patients i.e.<br>Interventional<br>Electrophysiological<br>Diagnostic/ablation<br>Pacing | De commissioned |
| ASD/PFO closure in low risk patients | Decommissioned or dependent upon agreement |

| | |
|---|---|
| | from a Level 1 centre |
| Complex cardio electro physiology and pacing | Decommissioned |
| Training status for cardiology training above Sp4 | Unable to train ACHD as this requires surgical/ interventional inpatient cover |

**1.6 For Trusts where we have proposed that level 1 services would no longer be provided, what would be the CHD activity levels if level 2 CHD services continued to be provided?**

Our assessment of the activity resulting from the implementation of the proposals will be based on the assumptions above only. There is a need for a clearer understanding of the role and viability of level 2 units working across multiple surgical centres (if commissioned), and the outcomes of the independent reviews of ECMO, PICU, Transport and Surgery. Without this information we are unable to estimate a level 2 service appropriately. We are willing to provide detailed analysis when these issues have been clarified.

## 2. Capacity

### 2.1 Current CHD capacity

**Paediatric**

**Wards** - EMCHC has a dedicated congenital cardiac ward for children with 17 beds; there is provision for adolescents and sufficient capacity to accommodate the required growth in activity prior to co-location with Children's services at the LRI in 2018
**Diagnostics / Cath lab**– access to four Cath lab sessions per week and one EP session, plus emergency daytime and out of hour's access
**Theatre** - full time theatre with access to additional theatre capacity as workload dictates plus emergency out of hour's access
**Critical care** – PICU at GH is commissioned for 7 beds and has physical capacity for a further 5 beds. Frequently flexes to accommodate up to 10 patients at a time currently.
**Outpatients** - 5 outpatient rooms currently supporting 11 clinics a week in house, three fetal clinics a week in association with our maternity services, and (as above) 254 clinics per year in nine sites across our network.

**Adult**

**Wards** – Adult patients are accommodated on 'home wards' for ACHD (medical and surgical.) There is no operational limit to this capacity within current and predicted workload
**Diagnostics / Cath lab**– access to four Cath lab sessions per week and one for EP plus emergency out of hour's access -
**Theatre** – full time theatre with access to additional theatre capacity as workload dictates plus emergency out of hour's access
**Outpatients -** 5 outpatient rooms + 3 scan rooms; we currently run 3 clinics a week in-house and 68 clinics per year in six sites across our network.

**Critical care** – The Adult Intensive Care Unit on the Glenfield Site has capacity of 22 physical beds and accommodates L3 (ICU), L2 (HDU) and ECMO patients. This enables to team to flex the bed base to support the care requirements of the patients on a day to day basis

**2.2 CHD capacity required if our proposals were to be implemented**

Unable to assess at this stage without further clarification - Please see above

**2.3 For Trusts where we have proposed that level 1 services would no longer be provided, what would be the CHD capacity required if level 2 CHD services continued to be provided?**

Unable to assess at this stage without further clarification - Please see above

**2.4 For Trusts where additional capacity would be required if our proposals were to be implemented, please describe your plans for developing that capacity and indicate when that capacity will be available? What are the rate limiting factors?**

N/A

**2.5 Do you have any comments on our predictions of changes to patient flows and the impact on their journey times, or on the assumptions underpinning the modelling?**

We welcome the nearest centre approach to the modelling for our centre. Our assumption is that as this approach has been used by NHS England to model the impact of the proposals, there will be no challenge to the same approach being used to determine our projected growth model.

We note however, patient choice needs to be a factor in both scenarios, and without full understanding of exactly how the patient flow will be affected by the proposal, it is very difficult to assess the impact especially on patient travel times, and staff impact.

We are struggling to understand how it can be possible that when all of our catchment population live closer to UHL than the proposed next closest centre, that travel times to the new level 1 centre will increase by only 14 minutes as a median and fall by 90% of all paediatric patients.

Reliance on the median as a measure of overall burden is inappropriate. Greater consideration should be given to the families whose journey times are in the longest quartile and those families where frequent and repeated hospital visits are required.

We remind you that in our proposed nearest centre network model we have been able to demonstrate that travel times and distances fall considerably for the region's patients compared with current Level 1 providers.

**Figure 1 Midlands Congenital Heart Network: travel times to UHL from proposed network hospitals by road and rail**

| | By road | | | Change vs travel to current Level 1 by road | | | Change vs travel to current Level 1 by train[3] |
|---|---|---|---|---|---|---|---|
| | Distance (miles) | Time[1] (mins) | Time[2] (mins) | Distance (miles) | Time[1] (mins) | Time[2] (mins) | Time (mins) |
| Peterborough City Hospital[4] | 43 | 62 | 64 | -42 | -56 | -59 | +2 to -23 |
| Queen Elizabeth Hospital, King's Lynn | 80 | 112 | 115 | -42 | -30 | -36 | +32 |
| Kettering General Hospital[5]* | 40 | 43 | 46 | -42<br>-84 | -70<br>-82 | -76<br>-81 | -37<br>-163 |
| Northampton General Hospital* | 46 | 52 | 52 | -22<br>-64 | -39<br>-71 | -50<br>-72 | +3 to +32<br>-87 to -116 |
| Bedford Hospital | 68 | 76 | 76 | +11 | -7 | -18 | +3 to -28 |
| Milton Keynes Hospital | 58 | 65 | 65 | +5 | -15 | -30 | +59 |

[1] standard travel time given by Google Maps
[2] travel time given by Google Maps at 10.30h on 08.10.15 (i.e. accounting for known delays)
[3] to-from nearest mainline station to arrive at 10.30h (does not include travel time from station to hospital). The range reflects variance in train timetable around the 10.30h arrival time
[4] Peterborough City Hospital is currently a member of two networks (East Midlands and GOSH)
[5] Kettering General Hospital is currently a member of three networks (East Midlands, Oxford-Southampton and GOSH)
* the upper line refers to travel to GOSH, the lower line to travel to Southampton General Hospital (both hospitals have services supplied by the Oxford-Southampton network)

## 3. Impact on other interdependent services and facilities

### 3.1 What other services would be affected if our proposals were to be implemented?

We note that the reviews into PICU, ECMO, Transport and Surgery have not yet commenced. The output from these reviews is a crucial element in assessing the impact to other associated services should the proposal go ahead.

The impact on other associated services is not clearly articulated as it is dependent upon a clearer understanding of the role and viability of level 2 units (if commissioned ), and the outcomes of the independent reviews of ECMO, PICU, Transport and Surgery. Without this information we are unable to estimate the impact on our wider services appropriately. We are willing to provide detailed analysis when these issues have been clarified.

As such we list below the services where there will be some degree of impact .We are not able to quantify this without further understanding of exactly how the proposals will be implemented, and the outcome of the associated reviews .

| Paediatric associated services | Rationale |
|---|---|
| CICU at LRI | The ability to maintain a PICU/CICU at LRI is totally dependent on our ability to retain the appropriately qualified PICU consultants/ nurses. It is feared that without the specialised services offered through Congenital Cardiac surgery, and our lack of other specialised paediatric services at UHL we would struggle to retain or attract these staff. The outcome of the PICU review will clarify if our fears are genuine. |
| Fetal cardiology | Geography will dictate whether or not there is any benefit in maintaining a tertiary fetal cardiac service separately from that which will continue to be needed at the Level 3 centres now serving the East |

| | |
|---|---|
| | Midlands. Even if Tertiary fetal cardiology is still provided, activity will reduce by at least 1/3rd as prospective parents will need at least 1 visit to their surgical unit pre-delivery |
| Long term ventilation | Limited PICU capacity and expertise is likely to lead to these patients being treated elsewhere |
| Specialist paediatric surgery | This is dependent upon an appropriately trained and staffed PICU, the outcome of the PICU review will illustrate if this is possible at LRI post implementation |
| Training status for Paediatricians with cardiology expertise | This will diminish over time, as the acuity and specialisms within the PICU are reduced. UHL will not attract trainees |
| Training status for ITU nurses and technicians | As above |
| Fetal medicine | A substantial proportion of fetal medical activity is supportive of the cardiac programme; this would be significantly impacted. |
| Cardiac BRU | Our ability to perform significant Cardiac research will be significantly impacted by a loss of cardiac surgery and its associated patients |
| Specialist neonatal surgery | Many patients with complex neonatal surgical conditions have concomitant cardiac problems and therefore will need to be delivered in a Level 1 centre; this will have a detrimental impact on the ability to provide tertiary neonatal surgery |
| Technical physiology | Currently EMCHC has one of the most highly trained, qualified and independently function team of congenital cardiac physiologists in the UK, with an excellent track record for in house training, recruitment and retention. It is highly likely that these very skilled practitioners will be in high demand and will migrate their skills elsewhere. It will similarly be very difficult to attract new staff. |
| In house delivery of complex babies | These deliveries are likely to be planned in the Level 1 centre to ensure access to congenital cardiac surgery is immediately available should it be required |
| Paediatric orthopaedic/ ENT/ General surgery on cardiac patients | Spinal patients and general surgical problems, dental cases etc. will all require cardiac anaesthetic input and hence will need to travel elsewhere. |
| | |
| **Adult associated services** | **Rationale** |
| High risk obstetric cardiology service | Loss of regional service, outpatient care, high risk deliveries in cardiac patients and in-patient antenatal care. Prospect of expectant mothers travelling out of region for obstetric care. |
| MRI cardiac specialists | Unable to undertake MRI under general anaesthesia. Concern about retention of specialist cardiologists and radiologists. |
| Outpatients | Reduction in volume. Concern over retention of specialist sonographers |

| | |
|---|---|
| Non cardiac surgical procedures on congenital cardiac patients<br>Gynae<br>Orthopaedic<br>Dental | Reduction in volume, dependent on regional agreements with level 1 centre. |

**3.2 What would be the nature of the impact for each of those services? Can this be quantified?**

Not at this stage. Without the clarity needed from the implementation plan and from the associated reviews of PICU, ECMO, Surgery and Transport it is not possible to accurately assess this impact.

**3.3 Would any interdependent services or facilities become non-viable if our proposals were to be implemented? Why?**

As above, it is not possible to answer this question without the output from the associated reviews

## 4. Financial and business impact

| Financial and Business Impact Summary to the EMCHC Impact Assessment (Nov'16) | | | |
|---|---|---|---|
| | | | |
| **Q1. What income does the Trust currently derive from CHD activity? Please provide a breakdown of the income if appropriate** | | | |
| | | | |
| **C or NC?** | **Income Category** | **Group** | **Total** |
| **Commissioned** | **Income - Nhs Patient Care** | LLR CCGs Acute Contract | £194,997 |
| | | NHSE Acute Contract | £17,963,572 |
| | | Non LLR Contracts | £208,973 |
| **Commissioned Total** | | | **£18,367,543** |
| **Non Commissioned** | **Income - Education, Training & Research** | Madel | £299,878 |
| | | Nmet | £15,179 |
| | | Sift | £224,336 |
| | **Income - Nhs Patient Care** | NCA | £62,519 |
| | **Income - Non-Nhs Patient Care** | Private Patient | £21,858 |
| | **Income - Other** | Other Operating Income | £545,025 |
| **Non Commissioned Total** | | | **£1,168,794** |
| **Grand Total** | | | **£19,536,337** |
| | | | |
| **Q2. What income would the Trust derive from CHD activity if our proposals were to be implemented? Please provide a breakdown of the income if appropriate** | | | |
| **Q3. For Trusts where we have proposed that level 1 services would no longer be provided, what income would be derived from CHD services if level 2 CHD services continued to be provided?** | | | |
| | | | |
| **C or NC?** | **Income Category** | **Group** | **Total** |
| **Commissioned** | **Income - Nhs Patient Care** | LLR CCGs Acute Contract | £55,705 |
| | | NHSE Acute Contract | £3,289,050 |
| | | Non LLR Contracts | £73,530 |
| **Commissioned Total** | | | **£3,418,285** |
| **Non Commissioned** | **Income - Education, Training & Research** | Madel | £218,942 |
| | | Nmet | £8,678 |
| | | Sift | £158,368 |
| | **Income - Nhs Patient Care** | NCA | £5,378 |
| | **Income - Non-Nhs Patient Care** | Private Patient | £14,499 |
| | **Income - Other** | Other Operating Income | £325,157 |
| **Non Commissioned Total** | | | **£731,022** |
| **Grand Total** | | | **£4,149,307** |

The financial assessment assumes the services lost are those as illustrated above in point 3.

**4.1 For Trusts where additional capacity would be required if our proposals were to be implemented, how would the necessary expansion of capacity be funded? Do you have agreed access to any required capital?**

N/A

**4.2 What would be the wider impact on the Trust's positioning in the local, regional and national healthcare market, its long term development plans and its overall viability if our proposals were to be implemented?**

We are very concerned about the potential effect of losing a large and internationally renowned clinical service on the Trust's position and future development. Working with regional partners we have developed

a number of collaborative approaches to specialist services in the East Midlands, and these collaborations would be threatened by the loss of such a significant service from our Trust. As noted previously, without further clarification of the effect of the proposals and the other independent reviews on specialist care provided by the Trust it is not possible to quantify this concern in any detail. We would very much like to participate in further discussions to clarify these issues.

## 5. Workforce implications

**5.1 What staff would be considered to be affected by change if our proposals were to be implemented? How would they be affected?**

The table below shows the staff who work directly (and only) for East Midlands Congenital Cardiac Service. These staff therefore will all be affected by change if the proposals were to be implemented. Without confirmation of the exact patient flows and the transition plan associated with these, it is impossible to predict in detail how the staff would be affected.

We assume the transition of such large numbers of staff and affectively the whole service provision will be subject to TUPE arrangements, and will require co location with the service to its receiving Level 1 centre. We carried out a staff survey in September 2016 which illustrated however, that 85% of our nursing staff would not be prepared to move away from Leicester should the proposal be implemented. It is therefore not appropriate to assume that TUPE of the entire staff is possible.

| Staff Group | Payscale Description | Heads | Wte |
|---|---|---|---|
| Additional Clinical Services | Review Body Band 2 | 11 | 8.99 |
| Additional Clinical Services Total | | 11 | 8.99 |
| Administrative and Clerical | Apprentice | 2 | 2.00 |
| | Non Review Body Band 1 | 2 | 0.00 |
| | Non Review Body Band 2 | 9 | 8.44 |
| | Non Review Body Band 3 | 1 | 0.48 |
| | Non Review Body Band 4 | 10 | 8.00 |
| | Non Review Body Band 5 | 1 | 1.00 |
| | Non Review Body Band 7 | 1 | 1.00 |
| Administrative and Clerical Total | | 26 | 20.92 |
| Estates and Ancillary | Non Review Body Band 1 | 3 | 2.09 |
| Estates and Ancillary Total | | 3 | 2.09 |
| Medical and Dental | Consultant (post 31 Oct) | 17 | 15.80 |
| | Consultant (pre 31 Oct) - 6yrs Snr | 1 | 1.00 |
| | Consultant (pre 31 Oct) - 7-8yrs Snr | 2 | 2.00 |
| | Locum Consultant | 3 | 3.00 |
| | Medical Ad Hoc | 8 | 0.00 |
| | Specialty Registrar | 16 | 16.00 |
| | Specialty Registrar Core training | 1 | 1.00 |
| Medical and Dental Total | | 48 | 38.80 |
| Nursing and Midwifery Registered | Review Body Band 5 | 43 | 36.99 |
| | Review Body Band 6 | 34 | 28.85 |
| | Review Body Band 7 | 15 | 12.19 |
| | Review Body Band 8 - Range A | 3 | 2.92 |
| | Review Body Band 8 - Range B | 1 | 1.00 |
| Nursing and Midwifery Registered Total | | 96 | 81.95 |
| Grand Total | | 184 | 152.75 |

In addition to the EMCHC staff who definitely will be affected should the proposal be implemented there are a number of associated staff who depending on the anticipated knock on effects will also be affected

| Manpower impact outside EMCHC | |
|---|---|
| **Job role** | **Adult/Paediatric** |
| **Theatres** | |
| Cardiac Team Leader | both |
| ODP's | both |
| Scrub nurses | both |
| HCA's | both |
| Perfusionists | both |
| Congenital Cardiac anaesthetist | Paediatric |
| Paediatric cardiac anaesthetists | Paediatric |
| Adult cardiac anaesthetists | Adult |
| Paediatric Fellow | Paediatric |
| | |
| **Imaging** | |
| Radiographers | Both |
| RDA's | Both |
| Administrative staff | Both |
| Modality team | Both |
| Mixed practice Radiologists | Both |
| | |
| **Outpatients** | |
| Clinical psychologists | both |
| Cardiac physiologists | both |
| Respiratory physiologist | both |
| Speech and Language therapists | both |
| Adult cardiac investigations team | Adult |
| | |
| **Cath Lab** | |
| Nurses | both |
| Radiographers | both |
| Cardiac technicians | both |
| HCA's | both |
| Cardiac anaesthetist ( as above ) | Paediatric |
| | |
| **Intensive Care unit** | |
| AICU nurses | Adult |
| Ward 32 ACHD nurses | Adult |

**5.2 For Trusts where we have proposed that level 1 service would no longer be provided, what staff would be considered to be affected by change if level 2 CHD services continued to be provided? How would they be affected?**

The very concept of Level 2 centres is unproven as was recognised by the IRP in their review of the flawed 'Safe and Sustainable' proposals. We would seek clarity over the viability and success of a Level 2 model, particularly in the ability of a Level 2 centre to attract and retain the number and quality of staff required. There has been no testing of the concept of a level 2 centre working across a number of surgical centres. Informal reaction from our highly skilled staff is that many of them would take up posts elsewhere in the Trust if possible. We believe as above our entire workforce would be affected by change should this proposal be implemented.

**5.3 Is a 'staff affected by change policy' in place? If so, please provide a copy.**

Our growth strategy requires additional capacity and resource to be made available from supporting services, and our recruitment and retention strategy for CHD services at UHL assumes growth as per our shared model. We are not prepared to undermine these strategies by entering into any speculative discussions with our staff before a decision is made. We are actively encouraging business as usual, despite the considerable strain and uncertainties caused by the review process, and remarkably continue to attract high quality candidates who believe that EMCHC is a great place to work.

**5.4 For Trusts where additional staffing would be required if our proposals were to be implemented, what strategy would the Trust adopt to ensure that it had the required staff in place, and when would it expect those staff to be in post?**

There is a national shortage of all associated staff and recruitment for the additional posts in the receiving Level 1 units will be challenging. It is not appropriate to assume that requirements for additional staff will be met by those staff affected by the demise of EMCHC.

## 6. Equalities and health inequalities

**6.1 Are there issues relating to equalities and/or health inequalities that your Trust has identified in the delivery of your current service? Please provide the relevant assessment and evidence.**

The Trust has not had cause to carry out an equalities and/or health inequalities assessment of our current service. The last major review was commissioned by the JCPCT as part of the Safe and Sustainable process and will be available to NHS England as a legacy document.

**6.2 If you have identified equalities and/or health inequalities issues, how are you addressing these? Is this approach effective?**

Please see above

**6.3 What effect, if any, would our proposals have on groups in your catchment population, sharing protected characteristics, if they were to be implemented? How could we mitigate those impacts?**

We are not in a position to make this assessment in the absence of the completed impact reviews and a detailed definition of the proposed service model including patient flows. This important assessment will require a significant piece of work, including wide patient and carer engagement of those patient groups identified, which we will support NHS England in completing.

**6.4 What effect, if any, would our proposals have on health inequalities in your catchment population, if they were to be implemented?**

See previous response

**6.5 For Trusts where we have proposed that level 1 services would no longer be provided, if level 2 CHD services continued to be provided what effect would this have on any impacts on equalities and/or health inequalities?**

See previous response