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# Where do East Midlands' Children and Young People get admitted and for what?

## Paediatric Inpatients and Health Care Provider Destination in The East Midlands: 2011 to 2014

Report by the Knowledge and Intelligence Service, East Midlands in partnership with East Midlands Women and Children's Network

Date of report: 30th Nov 2015

*Status of report: Draft pending Gateway approval, amendments may be required*

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# I. Report Purpose

This report was commissioned by East Midlands Clinical Networks and Clinical Senate (Children's Clinical Reference Group) in order to answer:-

- Where do our children and young people (CYP) currently attend for an admission?
- What is the reason for attendance?
- Are the East Midlands admitting units serving the child and young person population needs, if not why?

# II. Audience

This report is intended for the Children's Clinical Reference Group.

# III. Scope / Methodology

Data for this report is derived from the Hospital Episode Statistics in-patient database, using an SQL query (see appendix for full SQL query). The data contains details of all paediatric (children and young people under 19 years) inpatient admissions in the East Midlands region (EM) and also details of paediatric patients from the EM seen at health care providers not in the EM (but within England) for April 2011 to March 2014. This data was then further interrogated using excel, to provide counts and percentages of individuals and in some cases number of attendances for specific queries, in order to answer the "purpose" questions listed above.

# IV. Dissemination / Knowledge transfer

- Draft findings for the Maternity & Children's Network, East Midlands **9th September 2015**
- Initial findings and draft report presented Children's Clinical Reference Group **7th October 2015**
- Final draft report **30<sup>th</sup> November 2015** for distribution to the East Midlands Clinical Networks and Clinical Senate (Children's Clinical Reference Group)

# Executive summary

**Headline statement:** Within the East Midlands, children and young people (CYP) principally attend healthcare providers (HCP) that are geographically close to them for both elective and emergency reasons. Within the boundaries of the East Midlands Region (EM) there are **9** admitting HCP, however, close to but outside of the boundary of the region, there are a further **26** admitting HCP. Some of these are more easily accessible, for some individuals, due to road and transport links, than those situated within the EM.

There were **178,609** individual EM CYP listed on the HES inpatient database 2011/12 to 2013/14. Of these individuals;

- **83% (147,708)** only attended HCP that were located<sup>1</sup> within the EM (Group 1)
- **14% (24,943)** only attended HCP located in other regions (Group 2)
- **3% (5,958)** attended both EM and non-EM HCP (Group 4)

In Group 2 (those going out of region), **>80%** were seen at HCP close to the EM borders. Of the **<20%** of CYP attending HCP further away, over **8%** were for emergency attendances.

In addition to the above there were **7,316** CYP, who attended EM HCP who were either not EM resident (Group 3, **n=7002**) or had either unknown residential addresses or multiple addresses across geographical regions (Group 5, **n=314** CYP)

Respiratory is the largest primary diagnosis (**15.7%**) when all CYP (regardless of admission type, group) is reviewed, with external cause injury (accidents etc.) the next largest percentage (**12.9%**). For electives only patients ENT or dental are the most common diagnosis codes listed code whereas, infections or respiratory infections dominate the top five for emergency only patients.

For CYP who are only seen by Non-EM HCP (group 2) the largest primary diagnosis group for elective only patients is dental (**29%**) with congenital malformation being the second highest (**15.7%**). The largest number of emergency only patients (**22.8%**) were for the diagnostic code for accidents (external cause injury)

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<sup>1</sup> Geographically located HCP; Bassetlaw Hospital is counted, for the purposes of this report, as being geographically located within the EM however the Foundation Trust that runs the hospital has its HQ based in Yorkshire & Humberside Region and therefore in general Bassetlaw Hospital is usually counted as not being in the EM region.

# Executive Clinical Conclusions

This data has provided us with up to date information regarding our CYP patient population and where and why they access services.

1. When needing inpatient care the vast majority of EM CYP receive inpatient care in a HCP close to home within EM. This is for secondary and specialist care.
2. Where CYP receive care outside the EM for specialist problems the majority are referred from an EM unit – this is most likely where an EM specialist is seeking additional expertise on an individual basis due to exceptionality.
3. This dataset shows that for paediatric cardiac attendances only **13% (122 / 536)** of CYP, over a 3-year period, received care outside EM comparing to **16%** of children with other congenital malformations. From this, we can conclude that the vast majority of CYP with specialist problems from a congenital cause including cardiac are able to find the expert care within EM.
4. There are some specialist needs that are commissioned on a supra regional basis e.g. craniofacial unit at Birmingham Children's Hospital therefore for a small number of CYP we would expect their care to be outside EM and indeed that seems to be reflected in this dataset.

## Further study and recommendations

1. When reviewing the urgent care pathway for EM CYP all relevant units need to be engaged including border units
2. Why are so many EM CYP visiting dental units outside of EM – this may be an area warranting further investigation

*Dr Jane Williams, Clinical Director, Maternity and Children's Clinical Network, East Midlands Clinical Networks and Clinical Senate*

# 1. Background, geography & demographics

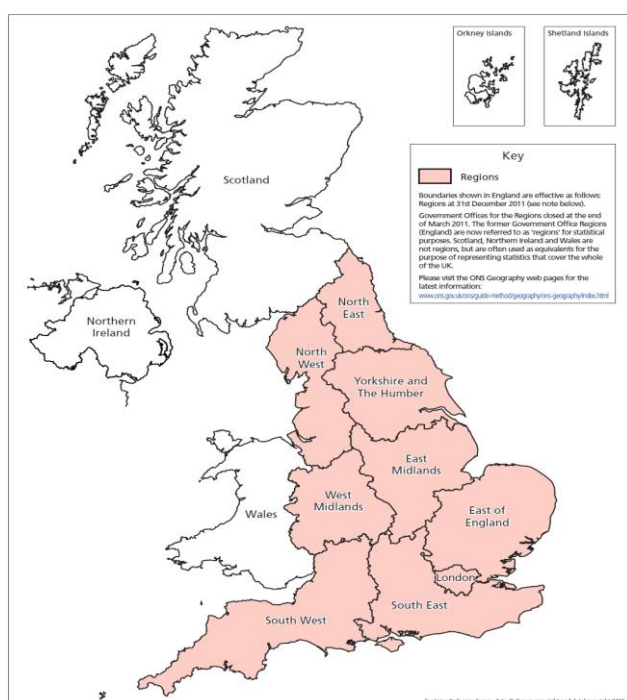
**Clinical Context:** In the recent national report “Facing the Future Together 2015”<sup>1</sup>, The Royal College Of Paediatrics and Child health aimed to ensure there is always high quality diagnosis and care in the unscheduled pathway and to reduce unnecessary attendances at the emergency department and admissions to hospital by providing care closer to home.

There are three overarching principles and eleven standards:

- **Standards one to six** - These focus on supporting primary care to safely care for the child or young person in the community, preventing unnecessary attendance at an emergency department or unnecessary admission to hospital.
- **Standards five to eight** - Of course it will be necessary for some children and young people to be cared for in hospital, and these standards focus on reducing the length of stay and enabling these children and young people to go home again as safely and as quickly as possible.
- **Standards nine to eleven** - These look more widely at connecting the whole system, streamlining the patient journey and improving the patient experience.

*Dr Jane Williams, Clinical Director, Maternity and Children’s Clinical Network, East Midlands Clinical Networks and Clinical Senate*

**East Midlands Region geography:** The EM has borders with five other regions, Yorkshire and The Humber, the North West, the West Midlands, the South East and East of England and by the North Sea coastline to the east.



- In area, it is **15,600** square km making it the fourth largest English region, smaller than the South West, East of England and the South East.
- The region covers **12%** of the total area of England and **6%** of the UK. It contains five counties, Derbyshire, Leicestershire, Lincolnshire, Northamptonshire and Nottinghamshire, and four unitary authorities, Derby, Leicester, Rutland and Nottingham.
- There are **36** districts contained within the counties in the region<sup>2</sup>.

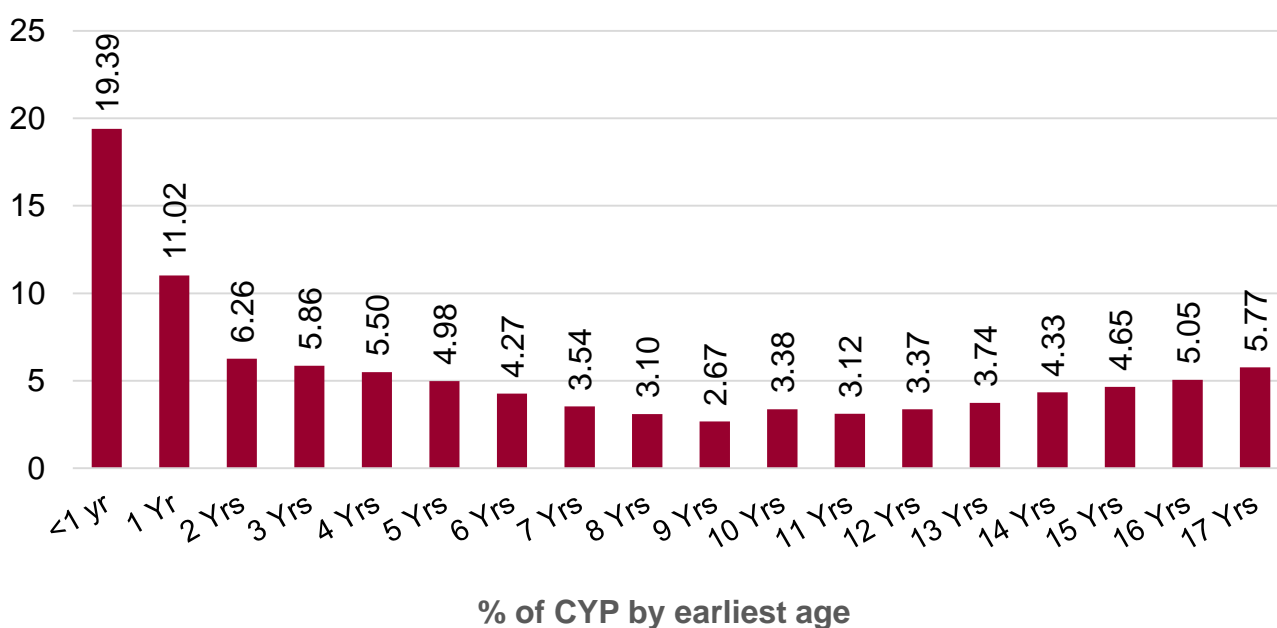
## Demographics: East Midlands region population and dataset age profile

There were just over **4.5** million residents in the East Midlands, representing 8 per cent of the population of England and Wales. Of this, just over 1 million (**23.5%**) are classed as Paediatric (aged under 19yrs)<sup>3</sup>

| Table 1: Population ONS mid-year estimates 2012 |                                 |               |
|-------------------------------------------------|---------------------------------|---------------|
| East Midlands 0-19yrs age                       | No. & % of 0-19yrs popn by area |               |
| England                                         | 12,833,200                      | 23.80%        |
| <b>East Midlands</b>                            | <b>1,082,600</b>                | <b>23.50%</b> |
| EM Unitary Authorities and Counties             |                                 |               |
| Derby Unitary Authority                         | 64,600                          | 25.70%        |
| Derbys County Council                           | 172,600                         | 22.20%        |
| Leicester Unitary Authority                     | 90,200                          | 27.00%        |
| Leics County Council                            | 153,300                         | 23.20%        |
| Lincs County Council                            | 157,900                         | 21.80%        |
| Northants County Council                        | 175,500                         | 24.80%        |
| Nottm Unitary Authority                         | 78,700                          | 25.30%        |
| Notts County Council                            | 181,000                         | 22.70%        |
| Rutland Unitary Authority                       | 8,800                           | 23.30%        |

**Age profile:** As the data set covers a **3-year** period, the age profile is by the earliest age the CYP appears in the dataset. Nearly **50%** of the CYP in the dataset are aged under 5 yrs.

**Chart 1: % of CYP by earliest age in dataset**





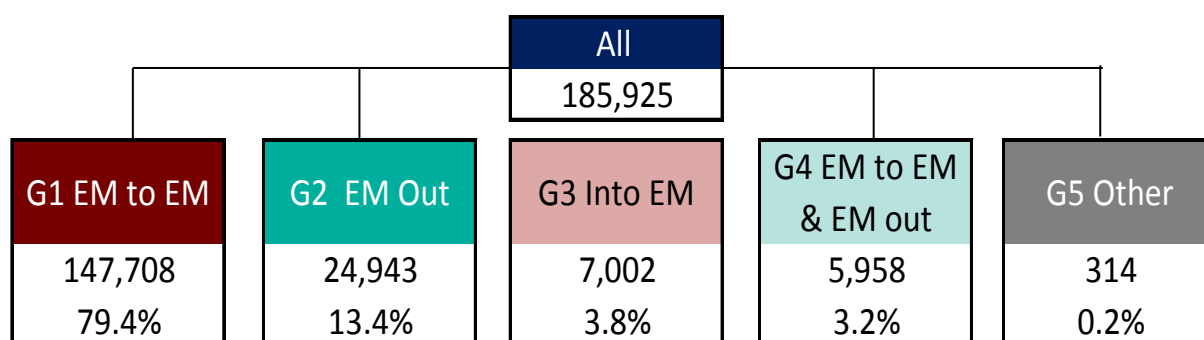
| <b>Table 2: Number and % of CYP by earliest age in dataset</b> |                   |                   |
|----------------------------------------------------------------|-------------------|-------------------|
| <b>Earliest Age</b>                                            | <b>No. of CYP</b> | <b>Percentage</b> |
| <1                                                             | 36,047            | 19.39             |
| 1 Yr                                                           | 20,487            | 11.02             |
| 2 Yrs                                                          | 11,634            | 6.26              |
| 3 Yrs                                                          | 10,897            | 5.86              |
| 4 Yrs                                                          | 10,223            | 5.50              |
| 5 Yrs                                                          | 9,259             | 4.98              |
| 6 Yrs                                                          | 7,940             | 4.27              |
| 7 Yrs                                                          | 6,584             | 3.54              |
| 8 Yrs                                                          | 5,762             | 3.10              |
| 9 Yrs                                                          | 4,964             | 2.67              |
| 10 Yrs                                                         | 6,283             | 3.38              |
| 11 Yrs                                                         | 5,800             | 3.12              |
| 12 Yrs                                                         | 6,265             | 3.37              |
| 13 Yrs                                                         | 6,944             | 3.74              |
| 14 Yrs                                                         | 8,053             | 4.33              |
| 15 Yrs                                                         | 8,636             | 4.65              |
| 16 Yrs                                                         | 9,391             | 5.05              |
| 17 Yrs                                                         | 10,732            | 5.77              |

## 2. Overview by groups

For 2011/12 to 2013/14 there were **185,925** individual CYP recorded on the Inpatient Hospital Episode Statistics (HES) database that were either living in the East Midlands region (EM) or seen by a HCP situated within the EM. This includes all admissions types.

- The largest group (G1) are CYP who are EM residents and attend HCP located within the EM **79.4% (147,708)**
- The next largest group (G2) are EM CYP attending only non- EM HCP **13.4% (24,943)**
- Group 3 are CYP attending HCP in the EM who do not have EM residential addresses **3.8% (7,002)**
- Group 4 are EM CYP who are seen by both EM HCP as well as non-EM HCP **3.2% (5,958)**
- Group 5, **314 (0.2%)** are CYP that have more than 1 residential regional code assigned to them over the 3 year period indicating a permanent residential move or fluctuating residential arrangements for the CYP in question or their residential code was listed as “unknown” / “no fixed abode” on HES

**Chart 2:** Groups - No. of individual CYP per group & percentage of total



Total number of CYP in dataset that are EM residents **178,609 (96%)** of the full data set

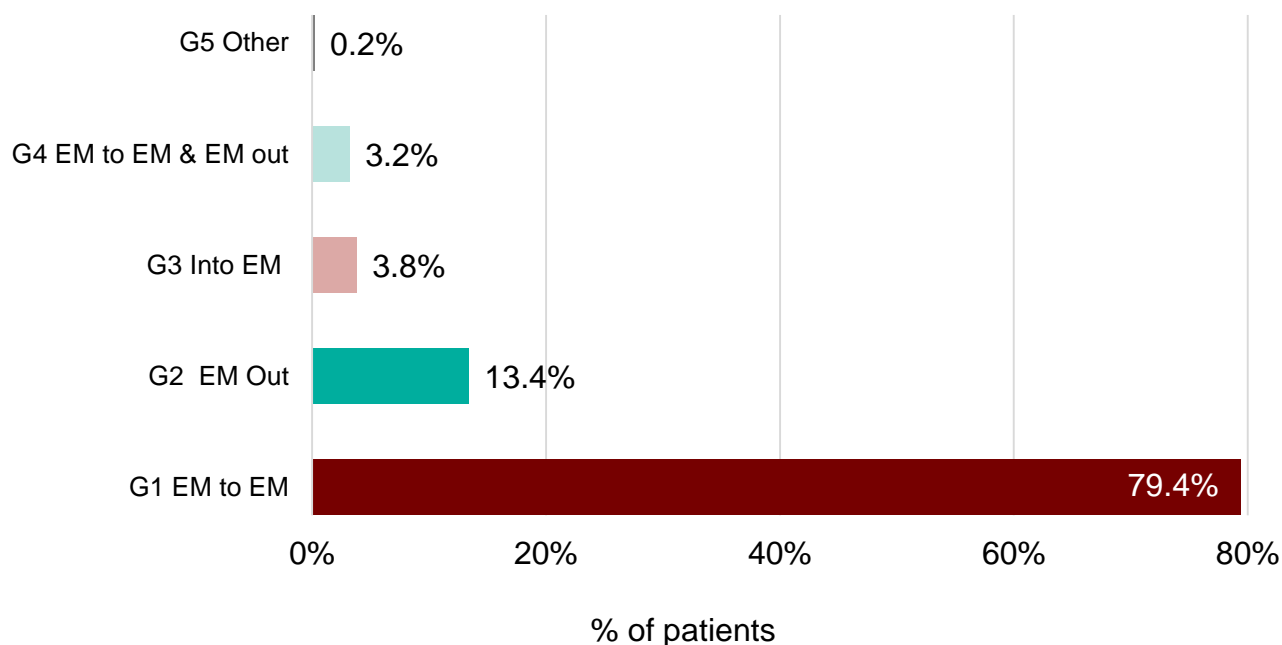
The number of EM CYP within this data set is

| <b>Table 3 East Midlands Residents only</b> |                |                                  |
|---------------------------------------------|----------------|----------------------------------|
| <b>Group</b>                                | <b>Number</b>  | <b>% of EM patients by group</b> |
| G1 EM CYP to EM HCP                         | 147,708        | 82.7                             |
| G2 EM CYP to non-EM HCP                     | 24,943         | 14.0                             |
| G4 EM CYP to EM & non-EM HCP                | 5,958          | 3.3                              |
| <b>Total EM</b>                             | <b>178,609</b> | <b>100%</b>                      |

As seen above, the largest group of CYP stays within the EM but a sizeable proportion (**13.4%** of full dataset, **14%** of EM CYP) attend HCP in other regions.

| <b>Table 4 Full dataset Individual's region to HCP region</b> | <b>No.</b>     | <b>%</b>     |
|---------------------------------------------------------------|----------------|--------------|
| <b>G1.</b> EM to EM                                           | 147,708        | 79.4%        |
| <b>G2.</b> EM to other region                                 | 24,943         | 13.4%        |
| <b>G3.</b> Other region to EM                                 | 7,002          | 3.8%         |
| <b>G4.</b> EM to EM and Other region                          | 5,958          | 3.2%         |
| <b>G5.</b> >1 address, or address unknown or "no fixed abode" | 314            | 0.2%         |
| <b>Total</b>                                                  | <b>185,925</b> | <b>100.0</b> |

**Chart 3:** CYP in-patient destinations, East Midlands 2011/12 - 2013/14



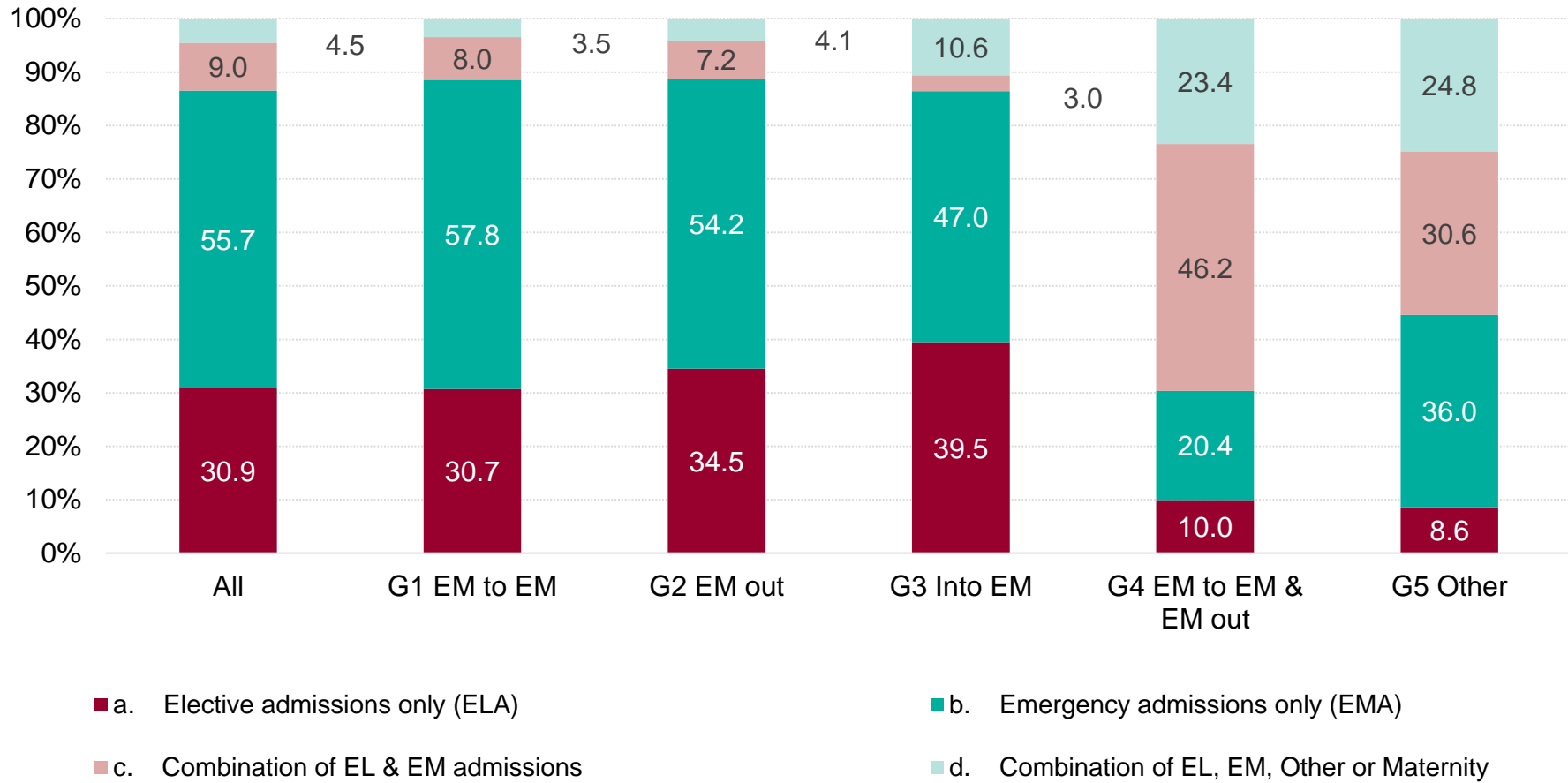
### 3. Findings: Admissions by group & admission type

- Admission type A: Elective admissions only during the timeframe **(57,370, 30.9%)**
- Admission type B: Emergency admissions only **(103,526, 55.7%)**
- Admission type C: CYP who have a mix of elective and emergency admissions during the timeframe **(16,649, 9%)**
- Admission type D: have either “other types of admissions” maternity admissions or a mix of elective, emergency, other and maternity **(8,380, 4.5%)**

Please note that the dataset **does** include admission methods 31 and 32, maternity admissions associated with under 18yrs CYP with ante and postnatal complications.

| <b>Table 5 Admission by group and type</b> |                                        |   | No.     | %    |
|--------------------------------------------|----------------------------------------|---|---------|------|
| All dataset                                | Elective admissions (ELA) only         | A | 57,370  | 30.9 |
|                                            | Emergency Admissions (EMA) only        | B | 103,526 | 55.7 |
| 185,925                                    | Elective and Emergency Admissions only | C | 16,649  | 9.0  |
|                                            | Mix of ELA, EMA, Other and Maternity   | D | 8,380   | 4.5  |
| G1 EM to EM                                | Elective admissions (ELA) only         | A | 45,372  | 30.7 |
|                                            | Emergency Admissions (EMA) only        | B | 85,400  | 57.8 |
| 147,708                                    | Elective and Emergency Admissions only | C | 11,789  | 8.0  |
| 79.4%                                      | Mix of ELA, EMA, Other and Maternity   | D | 5,147   | 3.5  |
| G2 EM Out                                  | Elective admissions (ELA) only         | A | 8,613   | 34.5 |
|                                            | Emergency Admissions (EMA) only        | B | 13,511  | 54.2 |
| 24,943                                     | Elective and Emergency Admissions only | C | 1,801   | 7.2  |
| 13.4%                                      | Mix of ELA, EMA, Other and Maternity   | D | 1,018   | 4.1  |
| G3 Into EM                                 | Elective admissions (ELA) only         | A | 2,765   | 39.5 |
|                                            | Emergency Admissions (EMA) only        | B | 3,288   | 47.0 |
| 7,002                                      | Elective and Emergency Admissions only | C | 208     | 3.0  |
| 3.8%                                       | Mix of ELA, EMA, Other and Maternity   | D | 741     | 10.6 |
| G4 EM to EM & EM out                       | Elective admissions (ELA) only         | A | 593     | 10.0 |
|                                            | Emergency Admissions (EMA) only        | B | 1,214   | 20.4 |
| 5,958                                      | Elective and Emergency Admissions only | C | 2,755   | 46.2 |
| 3.2%                                       | Mix of ELA, EMA, Other and Maternity   | D | 1,396   | 23.4 |
| G5 Other                                   | Elective admissions (ELA) only         | A | 27      | 8.6  |
|                                            | Emergency Admissions (EMA) only        | B | 113     | 36.0 |
| 314                                        | Elective and Emergency Admissions only | C | 96      | 30.6 |
| 0.2%                                       | Mix of ELA, EMA, Other and Maternity   | D | 78      | 24.8 |

**Chart 4: Comparison of individual admission patterns by groups**



## 4: Findings: by residential address

Some CYP in the EM (G1, 2 & 4) have multiple LA area addresses during the timeframe under review. To ensure that the possible reason for choice of HCP was not linked to the changing address the patients who only have one LA area code have been selected. These revised groups in addition to G3 (into EM) means the dataset is now **184,004** (or **99%** of the original dataset)

| <b>Table 6</b><br>No. of EM region addresses | <b>G1.</b><br>EM to EM | <b>G2.</b><br>EM out | <b>G3.</b> Into<br>EM | <b>G4.</b><br>EM to EM &<br>Out | <b>Total</b>   | <b>Included</b> |
|----------------------------------------------|------------------------|----------------------|-----------------------|---------------------------------|----------------|-----------------|
| <b>1 EM address</b>                          | 146,465                | 24,875               |                       | 5,662                           | <b>177,002</b> | <b>95.2</b>     |
| 2 EM addresses                               | 1,204                  | 67                   |                       | 288                             | 1,559          |                 |
| 3 EM addresses                               | 36                     | 1                    |                       | 7                               | 44             |                 |
| 4 EM addresses                               | 3                      |                      |                       |                                 | 3              |                 |
| 5 EM addresses                               |                        |                      |                       | 1                               | 1              |                 |
| <b>Non- EM address</b>                       |                        |                      | 7,002                 |                                 | <b>7,002</b>   | <b>3.8</b>      |
| <b>Grand Total</b>                           | <b>147,708</b>         | <b>24,943</b>        |                       | <b>5,958</b>                    | <b>185,925</b> | <b>99.0</b>     |
| <b>%</b>                                     | <b>79.4</b>            | <b>13.4</b>          |                       | <b>3.2</b>                      | <b>100.0</b>   |                 |

*Excluded from dataset analysis 1% of CYP*

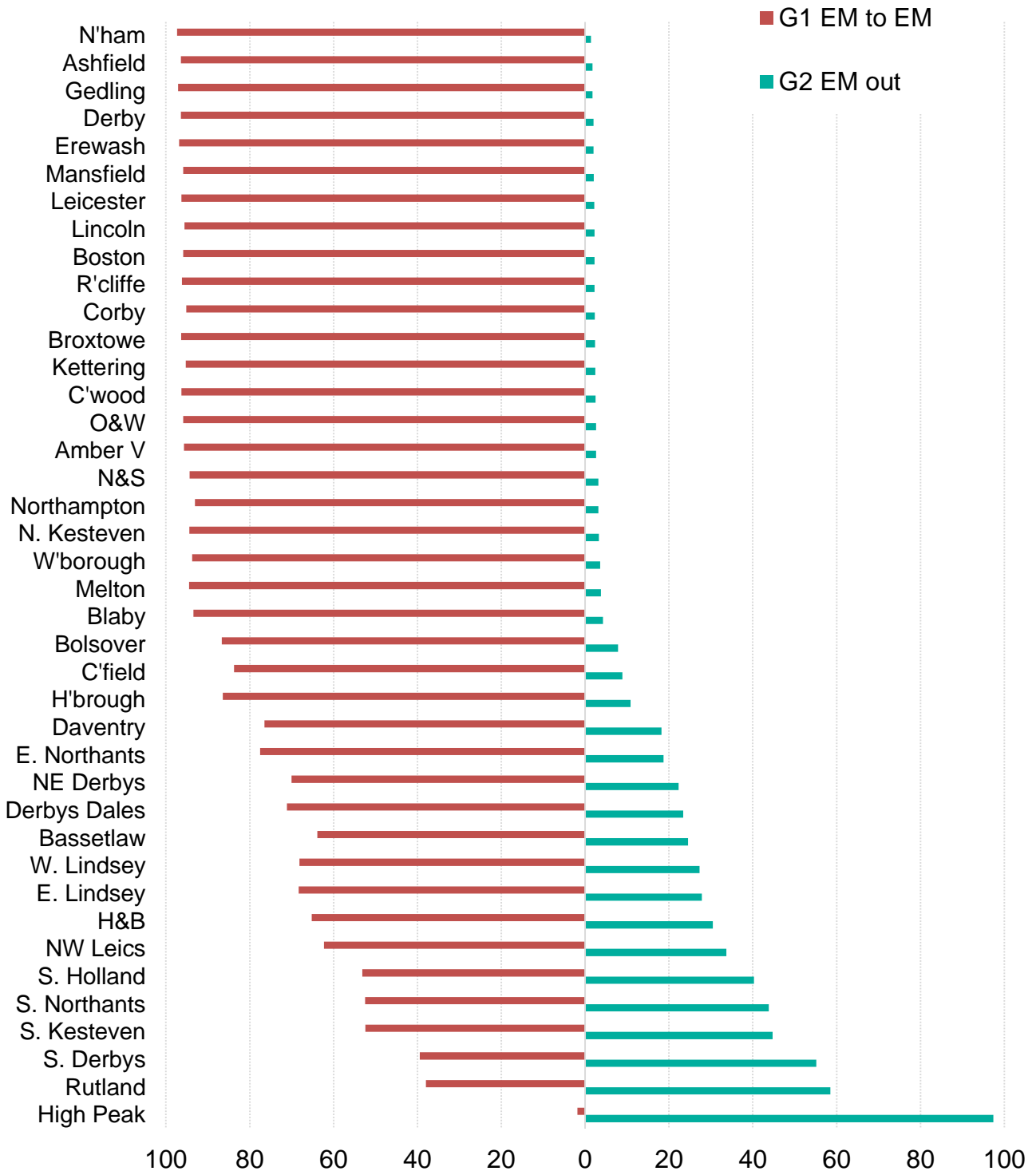
*G5 n=314 and G1, 2 & 4 with multiple EM LA area addresses n=1607*

| <b>Table 7: G1, 2 &amp; 4 with single EM address, by the county in which LA area address falls and G3</b> | <b>No. of patients</b> | <b>%</b>     |
|-----------------------------------------------------------------------------------------------------------|------------------------|--------------|
| Derby                                                                                                     | 9,907                  | 5.4          |
| Derbyshire                                                                                                | 30,338                 | 16.5         |
| Leicester                                                                                                 | 11,281                 | 6.1          |
| Leicestershire                                                                                            | 18,729                 | 10.2         |
| Lincolnshire                                                                                              | 30,029                 | 16.3         |
| Northamptonshire                                                                                          | 34,414                 | 18.7         |
| Nottingham                                                                                                | 11,385                 | 6.2          |
| Nottinghamshire                                                                                           | 29,837                 | 16.2         |
| Rutland                                                                                                   | 1,082                  | 0.6          |
| <i>G3 Into EM</i>                                                                                         | <i>7,002</i>           | <i>4.0</i>   |
| <b>Total</b>                                                                                              | <b>184,004</b>         | <b>100.0</b> |

The chart and accompanying table on the next two pages show the proportion of CYP by LA residential areas that are in G1 and G2. The map following the chart and table details EM CYP and the proportion of CYP per LA area in G2 (going out of EM). It highlights that six LA areas that have the highest proportion of CYP in G2; these areas are High Peak, Rutland, Southern Derbyshire, South Kesteven, South Northamptonshire and South Holland and are all on the boundary of the region.

**Chart 5:**

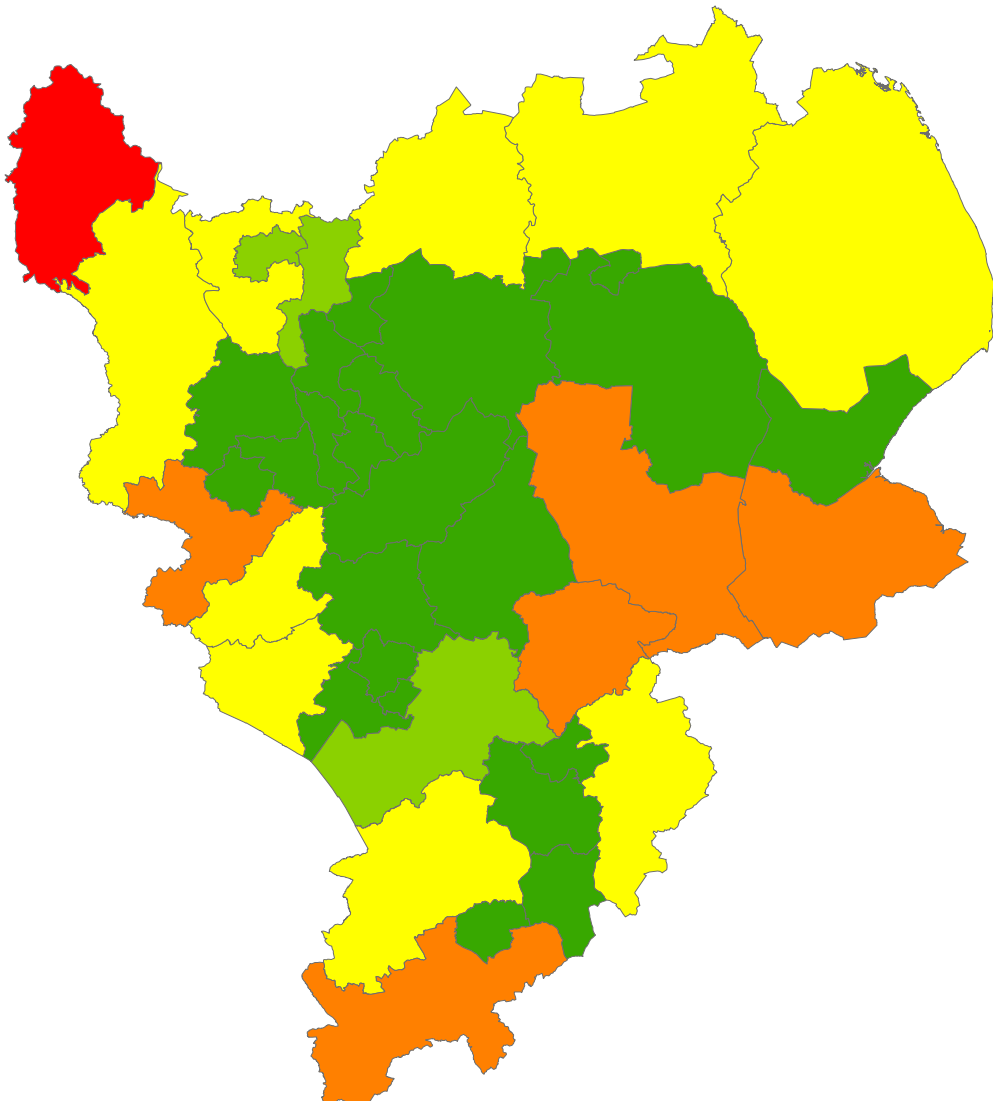
The Proportion of G1 (n=146,465) & G2 (n=24,875) patients with single LA addresses by LA area, seen by HCP within the EM (Red) and outside the EM (green)



| <b>Table 8:<br/>EM Resident's LA area<br/>(single address)</b> | <b>No.<br/>G1 EM<br/>to EM</b> | <b>No.<br/>G2 EM<br/>out</b> | <b>No. G4<br/>EM / EM<br/>&amp; EM out</b> | <b>Total</b>   | <b>G1 %</b>  | <b>G2%</b>   | <b>G4 %</b> |
|----------------------------------------------------------------|--------------------------------|------------------------------|--------------------------------------------|----------------|--------------|--------------|-------------|
| High Peak                                                      | 75                             | 4012                         | 34                                         | 4121           | 1.82         | 97.36        | 0.83        |
| Rutland                                                        | 411                            | 633                          | 38                                         | 1082           | 37.99        | 58.50        | 3.51        |
| S.Derbys.                                                      | 1,629                          | 2278                         | 223                                        | 4130           | 39.44        | 55.16        | 5.40        |
| S. Kesteven                                                    | 3,129                          | 2669                         | 169                                        | 5967           | 52.44        | 44.73        | 2.83        |
| S. Northants                                                   | 1,934                          | 1614                         | 137                                        | 3685           | 52.48        | 43.80        | 3.72        |
| S. Holland                                                     | 2,003                          | 1517                         | 248                                        | 3768           | 53.16        | 40.26        | 6.58        |
| N.W. Leics                                                     | 1,978                          | 1070                         | 127                                        | 3175           | 62.30        | 33.70        | 4.00        |
| Hinckley & Bosworth                                            | 1,956                          | 913                          | 130                                        | 2999           | 65.22        | 30.44        | 4.33        |
| East Lindsey                                                   | 3,447                          | 1403                         | 194                                        | 5044           | 68.34        | 27.82        | 3.85        |
| West Lindsey                                                   | 2,334                          | 936                          | 156                                        | 3426           | 68.13        | 27.32        | 4.55        |
| Bassetlaw                                                      | 3782                           | 1454                         | 682                                        | 5918           | 63.91        | 24.57        | 11.52       |
| Derbyshire Dales                                               | 1632                           | 537                          | 125                                        | 2294           | 71.14        | 23.41        | 5.45        |
| N.E. Derbys                                                    | 2867                           | 912                          | 315                                        | 4094           | 70.03        | 22.28        | 7.69        |
| E. Northants                                                   | 3028                           | 731                          | 146                                        | 3905           | 77.54        | 18.72        | 3.74        |
| Daventry                                                       | 2386                           | 568                          | 164                                        | 3118           | 76.52        | 18.22        | 5.26        |
| Harborough                                                     | 2187                           | 274                          | 70                                         | 2531           | 86.41        | 10.83        | 2.77        |
| Chesterfield                                                   | 4090                           | 435                          | 357                                        | 4882           | 83.78        | 8.91         | 7.31        |
| Bolsover                                                       | 3051                           | 277                          | 192                                        | 3520           | 86.68        | 7.87         | 5.45        |
| Blaby                                                          | 2505                           | 114                          | 61                                         | 2680           | 93.47        | 4.25         | 2.28        |
| Melton                                                         | 1336                           | 53                           | 25                                         | 1414           | 94.48        | 3.75         | 1.77        |
| Wellingborough                                                 | 3476                           | 133                          | 100                                        | 3709           | 93.72        | 3.59         | 2.70        |
| North Kesteven                                                 | 4228                           | 147                          | 102                                        | 4477           | 94.44        | 3.28         | 2.28        |
| Northampton                                                    | 11030                          | 378                          | 442                                        | 11850          | 93.08        | 3.19         | 3.73        |
| Newark & Sherwood                                              | 4312                           | 145                          | 113                                        | 4570           | 94.35        | 3.17         | 2.47        |
| Amber Valley                                                   | 3673                           | 101                          | 65                                         | 3839           | 95.68        | 2.63         | 1.69        |
| Oadby and Wigston                                              | 1507                           | 41                           | 24                                         | 1572           | 95.87        | 2.61         | 1.53        |
| Charnwood                                                      | 4196                           | 108                          | 54                                         | 4358           | 96.28        | 2.48         | 1.24        |
| Kettering                                                      | 4507                           | 114                          | 109                                        | 4730           | 95.29        | 2.41         | 2.30        |
| Broxtowe                                                       | 3006                           | 74                           | 39                                         | 3119           | 96.38        | 2.37         | 1.25        |
| Corby                                                          | 3251                           | 78                           | 88                                         | 3417           | 95.14        | 2.28         | 2.58        |
| Rushcliffe                                                     | 2927                           | 69                           | 47                                         | 3043           | 96.19        | 2.27         | 1.54        |
| Boston                                                         | 3136                           | 73                           | 61                                         | 3270           | 95.90        | 2.23         | 1.87        |
| Lincoln                                                        | 3897                           | 91                           | 89                                         | 4077           | 95.58        | 2.23         | 2.18        |
| Leicester                                                      | 10863                          | 244                          | 174                                        | 11281          | 96.29        | 2.16         | 1.54        |
| Mansfield                                                      | 4545                           | 99                           | 96                                         | 4740           | 95.89        | 2.09         | 2.03        |
| Erewash                                                        | 3350                           | 70                           | 38                                         | 3458           | 96.88        | 2.02         | 1.10        |
| Derby                                                          | 9555                           | 200                          | 152                                        | 9907           | 96.45        | 2.02         | 1.53        |
| Gedling                                                        | 3313                           | 61                           | 39                                         | 3413           | 97.07        | 1.79         | 1.14        |
| Ashfield                                                       | 4853                           | 89                           | 92                                         | 5034           | 96.40        | 1.77         | 1.83        |
| Nottingham                                                     | 11080                          | 160                          | 145                                        | 11385          | 97.32        | 1.41         | 1.27        |
| <b>Grand Total</b>                                             | <b>146,465</b>                 | <b>24,875</b>                | <b>5,662</b>                               | <b>177,002</b> | <b>82.75</b> | <b>14.05</b> | <b>3.20</b> |



**Chart 6: Proportion of EM CYP per LA area attending non-EM HCP**



**Legend**

**Local Authority Districts GB**

**G2 EM out**

- 1.4 - 4.3
- 4.4 - 10.8
- 10.9 - 33.7
- 33.8 - 58.5
- 58.6 - 97.4

High Peak LA area has the highest proportion of patients seen by non- EM HCP, followed by Rutland, Southern Derbyshire, South Kesteven, South Northamptonshire and South Holland.

## 5: Findings: G1: HCP attended by CYP by county of LA residence

Within Group 1: EM to EM over **99% (153,827)** were seen at nine main hospitals. The remaining smaller number of patients (<0%) were seen at other HCP in the EM (20 in total).

Over **90%** of attenders at each of the main hospitals reside in the county that the hospital is geographically located within apart from NUH and SFH. These hospitals are to the western boundary of the county and therefore are nearer to Derbyshire for some residents and have 12% of patients from Derbyshire LA areas

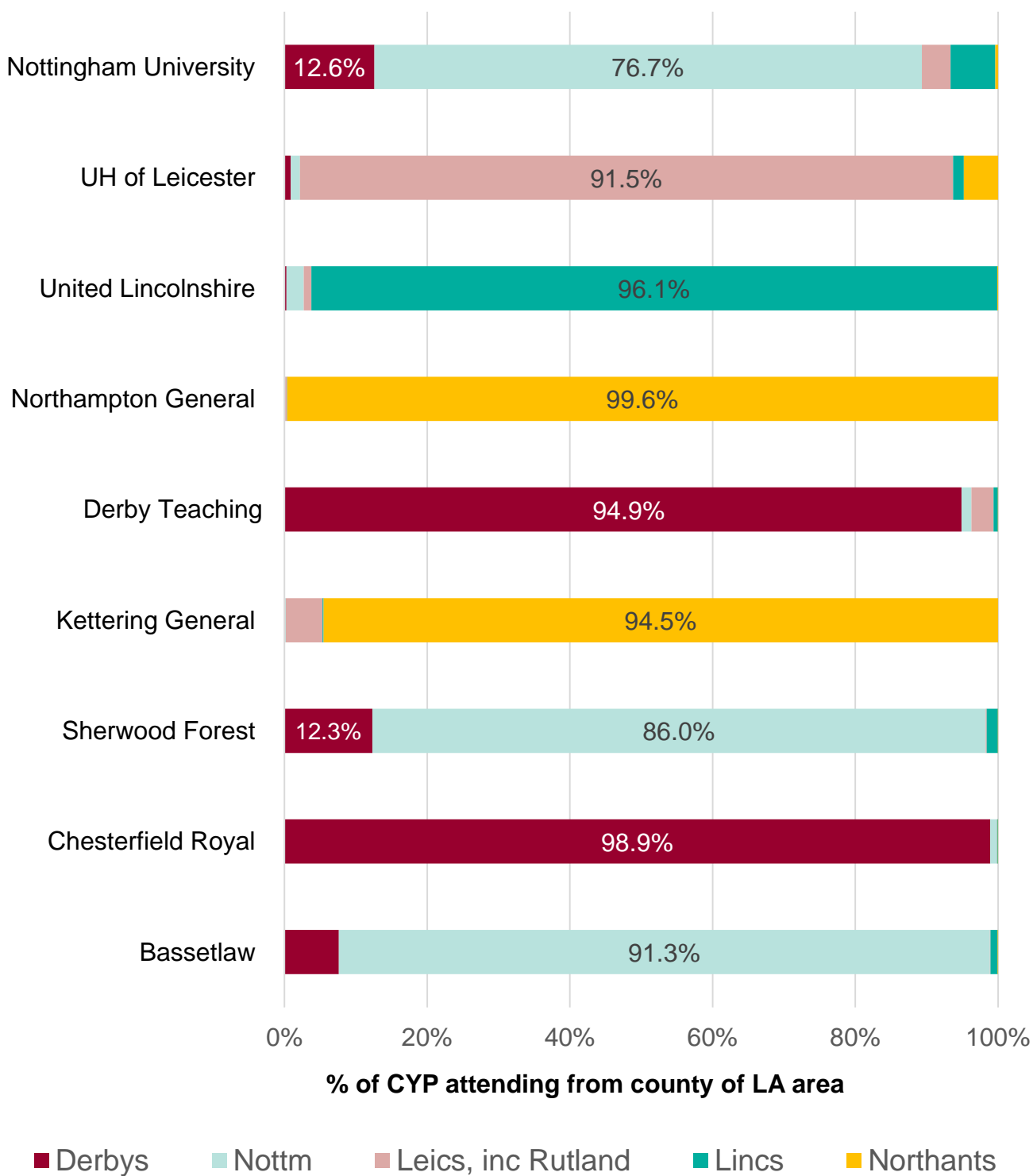
| <b>Table 9:<br/>HCP / County of<br/>residential address*</b> | <b>Derbyshire</b> | <b>Nottinghamshire</b> | <b>Leicestershire,<br/>and Rutland</b> | <b>Lincolnshire</b> | <b>Northamptonshire</b> | <b>Total</b>   | <b>%</b>     |
|--------------------------------------------------------------|-------------------|------------------------|----------------------------------------|---------------------|-------------------------|----------------|--------------|
| Bassetlaw Hospital (BH)                                      | 387               | 4,635                  | 4                                      | 50                  | 3                       | 5,079          | 3.3          |
| Chesterfield Royal (CRH)                                     | 9,628             | 89                     | 5                                      | 8                   | 3                       | 9,733          | 6.3          |
| Sherwood Forest (SFH)                                        | 1,522             | 10,636                 | 18                                     | 192                 | 4                       | 12,372         | 8.0          |
| Kettering General KGH)                                       | 6                 | 17                     | 703                                    | 21                  | 12,876                  | 13,623         | 8.8          |
| Derby Teaching (DTH)                                         | 15,472            | 229                    | 503                                    | 98                  | 5                       | 16,307         | 10.5         |
| Northampton Gen.(NGH)                                        | 4                 | 8                      | 44                                     | 6                   | 16,303                  | 16,365         | 10.5         |
| United Lincs (ULH)                                           | 61                | 552                    | 244                                    | 21,871              | 25                      | 22,753         | 14.7         |
| University Hospital of<br>Leicester (UHL)                    | 230               | 352                    | 24,601                                 | 406                 | 1285                    | 26,874         | 17.3         |
| Nottingham University<br>(NUH)                               | 3,867             | 23,578                 | 1,228                                  | 1,934               | 114                     | 30,721         | 19.8         |
| Other HCP in EM (n=20*)                                      | 171               | 625                    | 248                                    | 136                 | 134                     | 1,314          | 0.8          |
| <b>Total</b>                                                 | <b>31,348</b>     | <b>40,721</b>          | <b>27,598</b>                          | <b>24,722</b>       | <b>30,752</b>           | <b>155,141</b> | <b>100.0</b> |

*\*patients with single addresses only- excluded those patients with multiple EM addresses*

*\*The 20 other locations are: Ash Green Centre, BMI Lincoln Hospital, BMI Park Hospital, Buxton hospital, Circle NHS treatment centre, Clay Cross Hospital, Derbyshire Mental health services, George Hine House, Grantham hospital, Hinckley and District Hospital, Ilkeston Hospital, Johnson Hospital, Lincolnshire Partnership NHS foundation Trust, Loughborough Hospital, Louth Community Hospital, Melton War Memorial Hospital, Northamptonshire Mental health NHS foundation Trust, Nations Health Care Nottingham, Nottinghamshire Healthcare*

NHS Mental health Trust, Nuffield Health Leicester. Numbers attending each service suppressed to avoid disclosure.

**Chart 7: G1 EM to EM % of CYP admitted to HCP by county of patient**

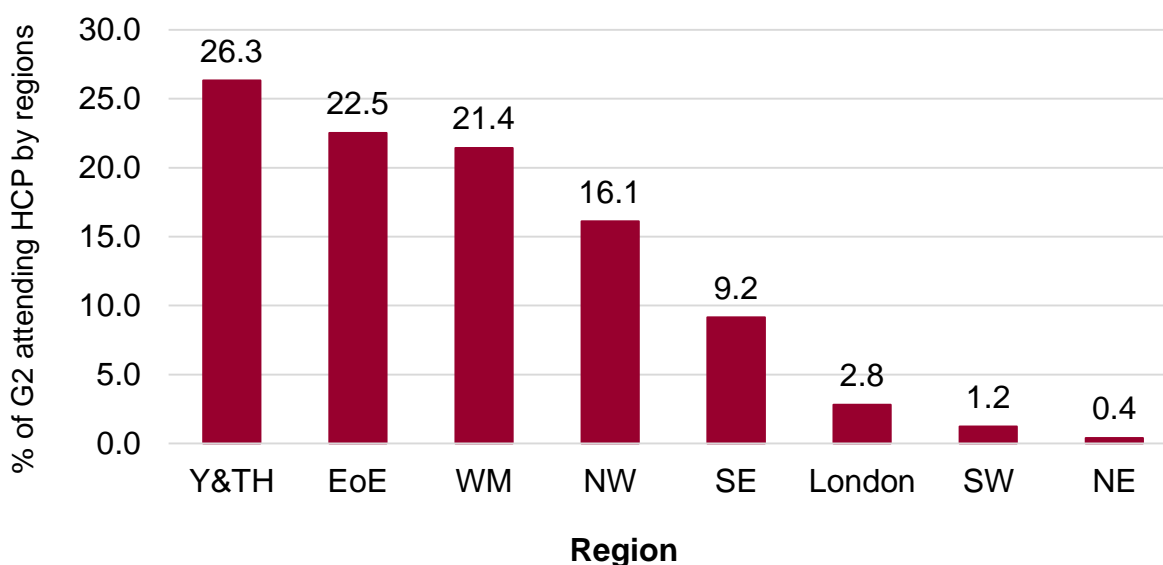


## 6. Findings: Group 2: Out of EM

CYP in group 2 mainly (>95%) attend HCP in the five regions that border the EM. Within those 5 regions the largest percentage of patients (>80% in each group) attend HCP that are located close to or within easy reach of the EM border.

| Table 10<br>Region        | No. of individuals<br>(all admission types) | % of<br>G2   |
|---------------------------|---------------------------------------------|--------------|
| Y&TH (border with EM)     | 6,641                                       | 26.3         |
| EoE (border with EM)      | 5,683                                       | 22.5         |
| WM (border with EM)       | 5,407                                       | 21.4         |
| NW (border with EM)       | 4,065                                       | 16.1         |
| SE (border with EM)       | 2,309                                       | 9.2          |
| London                    | 709                                         | 2.8          |
| SW                        | 314                                         | 1.2          |
| NE                        | 100                                         | 0.4          |
| <b>Total attendances</b>  | <b>25,228</b>                               | <b>100.0</b> |
| <b>No. of individuals</b> | <b>24,943</b>                               |              |

Chart 8 % of G2 attending HCP in other regions



**Group 2, by Attendances, HCP close to the EM border and admission type**

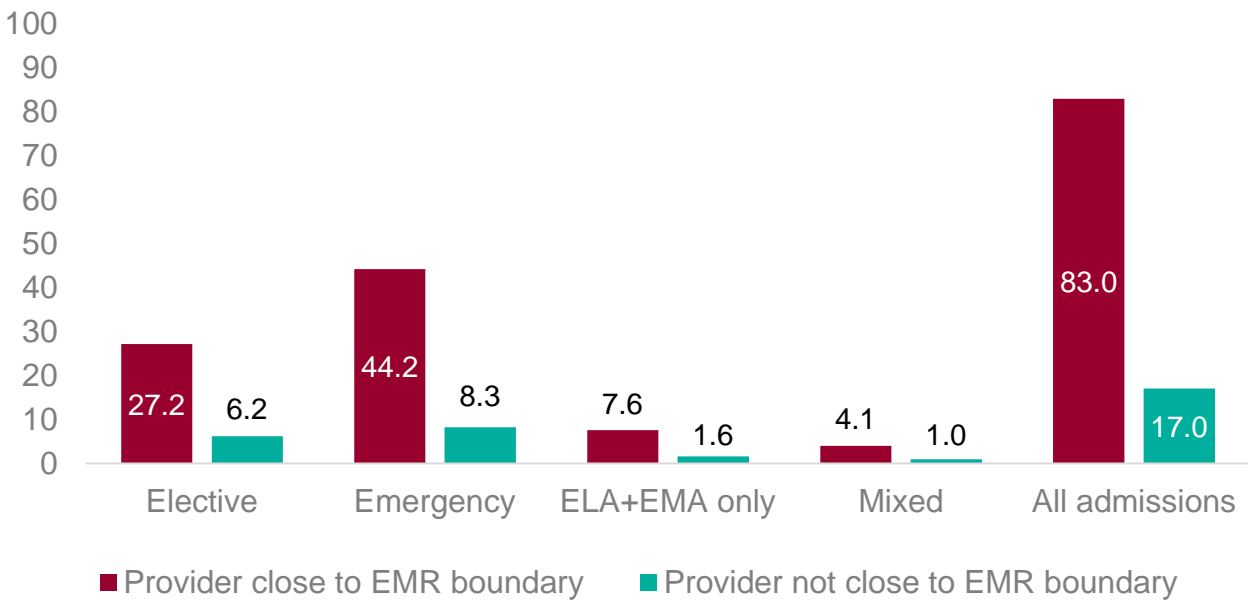
When group 2 is reviewed by HCP close to the EM border and those not close to the border **83% (21,878 of 26,371 attendances)** are to HCP that are close to the EM border.

|                                         |               |                    |
|-----------------------------------------|---------------|--------------------|
| <b>Table 11</b><br><b>G2: Out of EM</b> | <b>24,943</b> | <b>Individuals</b> |
|                                         | 26,371        | Attendances        |

| G2 Number / attendances  | Electives only | Emergency Only | ELA+EMA only | Mixed        | All admission |
|--------------------------|----------------|----------------|--------------|--------------|---------------|
| Close to EM boundary     | 7,163          | 11,651         | 1,995        | 1,069        | 21,878        |
| Not close to EM boundary | 1,637          | 2,177          | 425          | 254          | 4,493         |
| <b>Total</b>             | <b>8,800</b>   | <b>13,828</b>  | <b>2,420</b> | <b>1,323</b> | <b>26,371</b> |

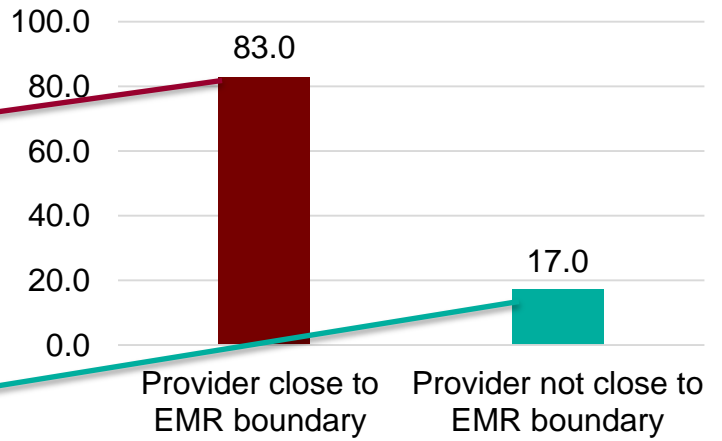
| G2 % of all G2 attendances   | Elective    | Emergency   | ELA+EMA only | Mixed      | All admissions |
|------------------------------|-------------|-------------|--------------|------------|----------------|
| HCP close to EM boundary     | 27.2        | 44.2        | 7.6          | 4.1        | 83.0           |
| HCP not close to EM boundary | 6.2         | 8.3         | 1.6          | 1.0        | 17.0           |
| <b>Total</b>                 | <b>33.4</b> | <b>52.4</b> | <b>9.2</b>   | <b>5.0</b> | <b>100.0</b>   |

**Chart 9: G2: % of EM ( attendances) at non-EM located HCP**





**Chart 10: G2: EM to non-EM providers**

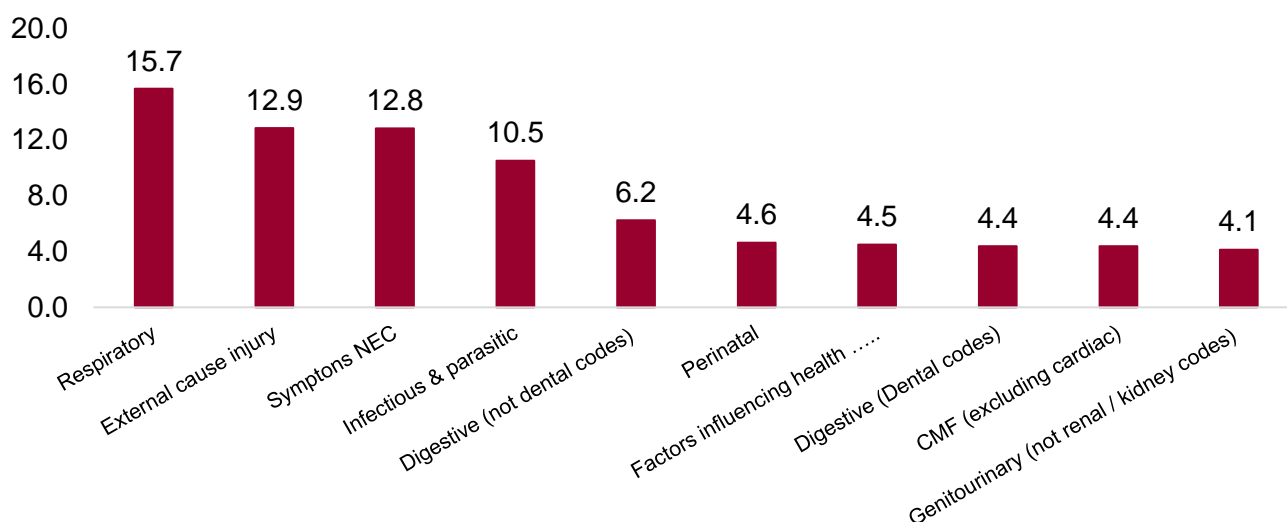


**Table 12: Non-EM HCP close to the EM boundary (n=26)**

|                                                          |
|----------------------------------------------------------|
| Peterborough And Stamford Hospitals NHSFT                |
| Sheffield Children's Hospital                            |
| Northern Lincolnshire And Goole NHSFT                    |
| Stockport NHSFT                                          |
| Tameside Hospital NHSFT                                  |
| University Hospitals Coventry And Warwickshire NHS Trust |
| Doncaster Royal Infirmary                                |
| Birmingham Children's Hospital NHSFT                     |
| The Queen Elizabeth Hospital King's Lynn NHSFT           |
| Central Manchester University Hospitals NHSFT            |
| Macclesfield District General Hospital                   |
| George Eliot Hospital NHS Trust                          |
| Sheffield Teaching Hospitals NHSFT                       |
| Milton Keynes Hospital NHSFT                             |
| Addenbrooke's Hospital                                   |
| University Hospital Of South Manchester NHSFT            |
| Rotherham District General Hospital                      |
| The Rotherham NHSFT                                      |
| Pennine Acute Hospitals NHS Trust                        |
| Good Hope Hospital                                       |
| Montagu Hospital                                         |
| Barnsley District General Hospital                       |
| Coventry And Warwickshire Partnership NHS Trust          |
| Birmingham Community Healthcare NHS Trust                |
| Manchester Surgical Centre                               |
| Sandwell General Hospital                                |

## 7. Findings: Inpatient admission, by admission type and diagnosis code

**Chart 11: All CYP / all attendances ( top 10) ICD codes**



Respiratory is the largest primary diagnosis (**15.7%**) when all CYP (regardless of admission type, group) is reviewed, with external cause injury (accidents etc) the next largest percentage (**12.9%**).

**By main admission type:** The top 5 ICD 10 codes for each admission type show that ENT or dental are the most common code for electives only patients whereas, infections or respiratory infections dominate the top 5 for emergency only patients.

| <b>Table 13: Top 5 ICD Primary Diagnosis for Elective only patients</b> | <b>No.</b>    | <b>% of all Electives</b> |
|-------------------------------------------------------------------------|---------------|---------------------------|
| Nonsuppurative otitis media                                             | 4,273         | 7.4                       |
| Dental caries                                                           | 3,857         | 6.7                       |
| Acute tonsillitis                                                       | 2,998         | 5.2                       |
| Chronic diseases of tonsils and adenoids                                | 2,414         | 4.2                       |
| Embedded and impacted teeth                                             | 1,979         | 3.4                       |
| <b>Grand Total</b>                                                      | <b>57,370</b> |                           |

| <b>Table 14: Top 5 ICD Primary Diagnosis for Emergency only patients</b> | <b>No.</b>     | <b>% of all emergencies</b> |
|--------------------------------------------------------------------------|----------------|-----------------------------|
| Viral infection of unspecified site                                      | 12,256         | 11.8                        |
| Acute upper respiratory infections of multiple & unspecified sites       | 5,995          | 5.8                         |
| Acute bronchiolitis                                                      | 5,505          | 5.3                         |
| Abdominal and pelvic pain                                                | 5,346          | 5.2                         |
| Viral and other specified intestinal infections                          | 5,163          | 5.0                         |
| <b>Grand Total</b>                                                       | <b>103,526</b> |                             |

## 8. Findings: Group 2 (out of EM) diagnostic code by chapter headings

For those CYP who are only seen by non-EM HCP the top ten ICD diagnostic codes differs, as would be expected, between the two main groups of electives and emergency admissions.

| <b>Table 15: Electives only admissions (top 10)</b> | <b>No. of attendances by individuals</b> | <b>% of all G2 electives</b> |
|-----------------------------------------------------|------------------------------------------|------------------------------|
| <b>ICD chapter heading</b>                          |                                          |                              |
| Digestive – dental codes only                       | 1,519                                    | 29.0                         |
| Congenital malformations*                           | 1,351                                    | 15.7                         |
| Ear & mastoid                                       | 820                                      | 13.6                         |
| Musculoskeletal                                     | 689                                      | 5.6                          |
| Genitourinary                                       | 613                                      | 4.3                          |
| Factors influencing health                          | 575                                      | 3.6                          |
| Digestive other –excluding dental codes             | 554                                      | 3.3                          |
| Respiratory                                         | 538                                      | 3.2                          |
| Symptoms NEC                                        | 462                                      | 2.7                          |
| External cause injury                               | 420                                      | 2.5                          |

\*Congenital malformations contains n=1266 attendances for other forms of congenital malformations and n=85 attendances for cardiac congenital malformations.

| <b>Table 16: Emergency</b> | <b>No. of attendances by individuals</b> | <b>% of all G2 emergencies</b> |
|----------------------------|------------------------------------------|--------------------------------|
| <b>ICD chapter heading</b> |                                          |                                |
| External cause injury      | 2,988                                    | 22.8                           |
| Infectious & parasitic     | 2,512                                    | 12.5                           |
| Symptoms NEC               | 2,382                                    | 8.8                            |
| Respiratory                | 2,323                                    | 3.8                            |
| Digestive                  | 911                                      | 3.0                            |
| Perinatal                  | 828                                      | 2.1                            |
| Respiratory / Bronchitis   | 658                                      | 1.7                            |
| Genitourinary              | 511                                      | 1.4                            |
| Respiratory / Asthma       | 348                                      | 1.1                            |
| Skin                       | 339                                      | 1.1                            |



For the two largest proportion of electives admission the dental patients predominately attend hospitals near to the EM while for congenital malformations, a larger proportion (nearly 40%) attend hospitals further away.

| <b>Table 17:<br/>Electives only admissions<br/>(top 10)</b> | No. of individuals | % to non-EM<br>HCP close to EM<br>boundary | % to non- EM HCP<br>not close to EM<br>boundary |
|-------------------------------------------------------------|--------------------|--------------------------------------------|-------------------------------------------------|
| <b>ICD chapter heading</b>                                  |                    |                                            |                                                 |
| Digestive/ Dental                                           | 1,519              | 95.8%                                      | 4.2%                                            |
| Congenital malformations                                    | 1,342              | 61.8%                                      | 38.2%                                           |

For Emergency admissions, the two largest chapter headings have 80% or more of the attendances by EM CYP to hospital close to the EM boundary.

| <b>Table 18:<br/>Emergency only<br/>admissions (top 10)</b> | No. of individuals | % to non-EM<br>HCP close to EM<br>boundary | % to non- EM HCP<br>not close to EM<br>boundary |
|-------------------------------------------------------------|--------------------|--------------------------------------------|-------------------------------------------------|
| <b>ICD chapter heading</b>                                  |                    |                                            |                                                 |
| External cause injury*                                      | 2,988              | 80%                                        | 20%                                             |
| Infectious & parasitic*                                     | 2,512              | 86%                                        | 14%                                             |

## 9. Findings: Which Hospitals?

| <b>Table 19:<br/>Electives / Dental G2 HCP close to EM</b> | <b>No. of attendances</b> | <b>%</b> |
|------------------------------------------------------------|---------------------------|----------|
| Sheffield Children's Hospital                              | <b>445</b>                | 29.0     |
| Peterborough And Stamford NHSFT                            | 234                       | 15.3     |
| Sheffield Teaching Hospitals NHSFT                         | <b>208</b>                | 13.6     |
| Stockport NHSFT                                            | 86                        | 5.6      |
| Northern Lincolnshire And Goole NHSFT                      | 66                        | 4.3      |
| Rotherham District General Hospital                        | 55                        | 3.6      |
| Macclesfield District General Hospital                     | 50                        | 3.3      |
| Doncaster Royal Infirmary                                  | 49                        | 3.2      |
| Central Manchester University Hospitals NHSFT              | 41                        | 2.7      |
| Tameside Hospital NHSFT                                    | 39                        | 2.5      |
| Milton Keynes Hospital NHSFT                               | 35                        | 2.3      |
| The Rotherham NHSFT                                        | 24                        | 1.6      |
| George Eliot Hospital NHS Trust                            | 21                        | 1.4      |
| Queen Elizabeth Hospital King's Lynn NHSFT                 | 18                        | 1.2      |
| University Hospitals Coventry & Warwickshire               | 17                        | 1.1      |
| Montagu Hospital                                           | 16                        | 1.0      |
| Non-EM HCP close to EM boundary N=9                        | 37                        | 2.4      |

| <b>Table 20:<br/>Electives / Dental G2 HCP not close to EM</b> | <b>No. of attendances by individuals</b> | <b>%</b> |
|----------------------------------------------------------------|------------------------------------------|----------|
| Oxford University Hospitals NHS Trust                          | 28                                       | 1.8      |
| South Warwickshire NHSFT                                       | 7                                        | 0.5      |
| Addenbrooke's Hospital                                         | 6                                        | 0.4      |
| Other Non-EM HCP not near EM boundaries (n=25)                 | 52*                                      | 3.4      |

*(Numbers combined when count is less than 5)*

*Other non-EM HCP (numbers attending suppressed for disclosure purposes) Guy's And St Thomas' NHSFT, Great Ormond Street Hospital for Children NHS Hull And East Yorkshire Hospitals NHS Trust, Barts Health NHS Trust Kings College Hospital, Norfolk And Norwich University Hospitals NHSFT, UCH Macmillan Cancer Centre, Chelsea And Westminster Hospital NHS Foundation, New University College Hospital, The Eastman Dental Hospital, Barking, Havering & Redbridge, University Hospitals NHSFT, Barnet And Chase Farm Hospitals NHS Trust, Barnsley District General Hospital, Basingstoke And North Hampshire NHSFT, Bolton NHS Foundation Trust, Buckinghamshire Healthcare NHS Trust, Dorset County Hospital, Great Western Hospitals NHSFT, Kings College Dental Hospital, Leeds Teaching Hospitals NHS Trust, North West London Hospitals NHS Trust, Royal Devon And Exeter NHSFT, South Devon Health Care NHSFT, The Newcastle Upon Tyne Hospitals NHSFT, West Middlesex University Hospital NHS Trust*

For comparison with G2 dental codes, there were over 7,000 attendances to EM HCP by EM residents for dental codes.

| <b>Table 21:<br/>Group 1 EM to EM Electives Dental codes</b> | <b>No. of attendances</b> | <b>%</b> |
|--------------------------------------------------------------|---------------------------|----------|
| Kettering General Hospital NHSFT                             | 1,426                     | 20.0     |
| Northampton General Hospital NHS Trust                       | 1,411                     | 19.8     |
| University Hospitals Of Leicester NHS Trust                  | 857                       | 12.0     |
| Derby Teaching Hospitals NHSFT                               | 812                       | 11.4     |
| Bassetlaw Hospital                                           | 760                       | 10.7     |
| Lincoln County Hospital                                      | 510                       | 7.2      |
| Nottingham University Hospitals NHS Trust                    | 480                       | 6.8      |
| Chesterfield Royal Hospital                                  | 248                       | 3.5      |
| Sherwood Forest Hospitals NHSFT                              | 232                       | 3.3      |
| Pilgrim Hospital                                             | 164                       | 2.3      |
| Grantham Hospital                                            | 101                       | 1.4      |
| Circle-Nottingham NHS Treatment Centre                       | 56                        | 0.8      |
| Nottingham NHS Treatment Centre (Nations)                    | 37                        | 0.5      |
| <b>Grand Total</b>                                           | <b>7,101</b>              |          |

| <b>Table 22:<br/>G2 Emergencies / External cause injuries HCP<br/>close to EM</b> | <b>No. of<br/>attendances<br/>by individuals</b> | <b>%</b> |
|-----------------------------------------------------------------------------------|--------------------------------------------------|----------|
| Peterborough & Stamford Hospitals NHSFT                                           | 482                                              | 15.9     |
| Queen's Hospital, Burton Upon Trent                                               | 400                                              | 13.2     |
| University Hospitals Coventry & Warwickshire                                      | 250                                              | 8.2      |
| Northern Lincolnshire And Goole NHSFT                                             | 217                                              | 7.1      |
| Stockport NHSFT                                                                   | 161                                              | 5.3      |
| Sheffield Children's Hospital                                                     | 139                                              | 4.6      |
| Tameside Hospital NHSFT                                                           | 136                                              | 4.5      |
| George Eliot Hospital NHS Trust                                                   | 129                                              | 4.2      |
| Central Manchester University Hospitals NHSFT                                     | 103                                              | 3.4      |
| Macclesfield District General Hospital                                            | 81                                               | 2.7      |
| Queen Elizabeth Hospital King's Lynn NHSFT                                        | 73                                               | 2.4      |
| Birmingham Children's Hospital                                                    | 60                                               | 2.0      |
| Milton Keynes Hospital NHSFT                                                      | 51                                               | 1.7      |
| Doncaster Royal Infirmary                                                         | 46                                               | 1.5      |
| University Hospital Of South Manchester NHSFT                                     | 18                                               | 0.6      |
| Sheffield Teaching Hospitals NHSFT                                                | 17                                               | 0.6      |
| The Rotherham NHSFT                                                               | 17                                               | 0.6      |
| Bedford Hospital NHS Trust                                                        | 10                                               | 0.3      |
| Royal Stoke University Hospital                                                   | 10                                               | 0.3      |
| Non-EM HCP closes to EM boundary n=7                                              | 31                                               | 1.0      |

| <b>Table 23:<br/>G2 Emergencies / External cause injuries<br/>HCP not close to EM</b> | <b>No. of<br/>attendances by<br/>individuals</b> | <b>%</b> |
|---------------------------------------------------------------------------------------|--------------------------------------------------|----------|
| Oxford University Hospitals NGS Trust                                                 | 181                                              | 6.0      |
| Hull And East Yorkshire Hospitals NHS Trust                                           | 38                                               | 1.3      |
| Addenbrooke's Hospital                                                                | 23                                               | 0.8      |
| Royal Cornwall Hospitals NHS Trust                                                    | 22                                               | 0.7      |
| Norfolk And Norwich University Hospitals NHSFT                                        | 16                                               | 0.5      |
| Buckinghamshire Healthcare NHS Trust                                                  | 14                                               | 0.5      |
| York Teaching Hospital NHSFT                                                          | 12                                               | 0.4      |
| Non-EM HCP not close to EM boundary (n=100)                                           | 301                                              | 9.9      |

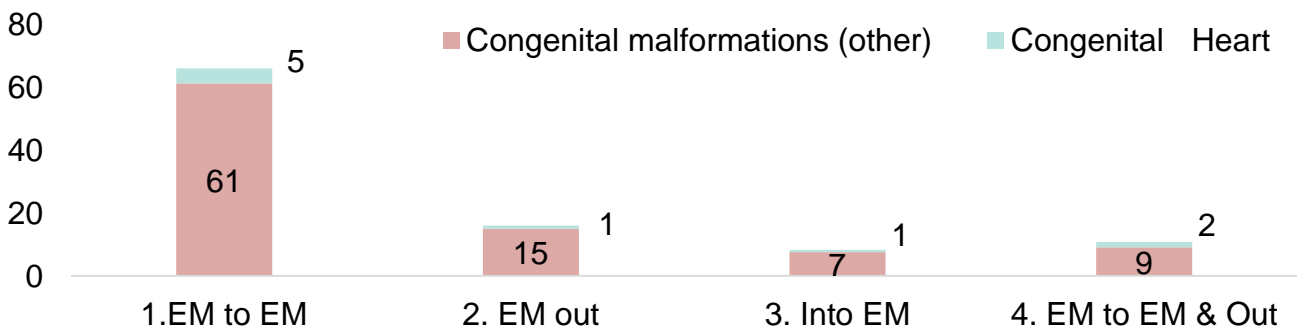
# 10. Congenital abnormalities

| Group             | Congenital malformations (Other) | Congenital Malformations (Heart) | Individuals   | %          |
|-------------------|----------------------------------|----------------------------------|---------------|------------|
| 1. EM to EM       | 6,929                            | 536                              | 7,379         | 65.2       |
| 2. EM out         | 1,692                            | 122                              | 1,801         | 15.9       |
| 3. Into EM        | 848                              | 88                               | 932           | 8.2        |
| 4. EM to EM & Out | 1025                             | 191                              | 1,166         | 10.3       |
| 5. Mixed GOR      | 41                               | 6                                | 45            | 0.4        |
| <b>Total</b>      | <b>10,535</b>                    | <b>943</b>                       | <b>11,323</b> | <b>100</b> |

Congenital malformations form a very small sub-set of the entire dataset (**11,323, 6%** of **185, 925 CYP**). **65.2%** stay within the EM for treatment and **15.9%** attend non-EM HCP.

Primarily CYP who have a diagnosis of congenital malformation, including cardiac congenital malformation, who attend non-EM HCP tend to live in the LA areas located on the border of the region and therefore may find it more convenient to attend a non-EM HCP (detailed breakdown suppressed due to disclosure control) .

**Chart 12: Percentage of Congenital malformation primary diagnosis by group**



|                                         | Individuals | %           |
|-----------------------------------------|-------------|-------------|
| Not close to EM boundary                | 552         | 30.2%       |
| Yes close to EM boundary                | 1,274       | 69.8%       |
| <b>Attendances ( 1,801 individuals)</b> | <b>1826</b> | <b>100%</b> |

# References and Abbreviations

1. Facing the Future Together 2015; Standards for Acute General Paediatric Services” report <http://www.rcpch.ac.uk/facingthefuture>
2. Portrait of the East Midlands Jen Beaumont, Office for National Statistics 2009
3. ONS: Live births, Office for National Statistics (ONS); population estimates 2012, ONS mid-year estimates; population projections via CHIMAT Child Health Profiles 2015

| Abbreviations |                                          |
|---------------|------------------------------------------|
| BH            | Bassetlaw Hospital                       |
| CRH           | Chesterfield Royal                       |
| CYP           | Children and young people                |
| DTH           | Derby Teaching                           |
| ELA           | Elective Admission                       |
| EM            | East Midlands Region                     |
| EMA           | Emergency Admission                      |
| HES           | Hospital Episode Statistics              |
| KGH           | Kettering General Hospital               |
| HCP           | Healthcare providers                     |
| LA            | Local Authority                          |
| NHSFT         | National Health Service Foundation Trust |
| NGH           | Northampton General Hospital             |
| NUH           | Nottingham University Hospital           |
| ONS           | Office of National Statistics            |
| PHE           | Public Health England                    |
| SFH           | Sherwood Forest Hospitals                |
| ULH           | United Lincolnshire Hospitals            |
| UHL           | University Hospital of Leicester         |

# Appendix

Data set: Data extracted from Hospital Episode Statistics (HES) inpatient data file.

## The data set includes

All < 18 yrs (paediatrics) inpatient admissions in 2011/12, 2012/13 and 2013/14 for  
**Group 1.** CYP living in the East Midlands Region (EM) attending HCP located within the EM [EM to EM]

**Group 2.** CYP living in the EM who attend HCP located outside the EM [Out of EM]

**Group 3.** CYP living in other regions attending HCP located within the EM [Into EM]

**Group 4.** CYP living in the EM who attend HCP located within the EM and HCP outside of the EM [EM to EM and Out of EM]

**Group 5.** CYP who have > 1 regional residential addresses during timeframe or who have “no fixed abode” or whose residential address on HES is listed as “unknown” [Mixed]

## The data set excludes admission methods

82: Hospital birth: The birth of a baby in this HCP

83: Birth other: Baby born outside the HCP except when born at home as intended

*Please note that the dataset does include admission methods 31 and 32, maternity admissions associated with under 18yrs paediatric patients experience antenatal and postnatal complications with their pregnancy*

## **SQL query used to extract data from HES**

### **PROC SQL; CREATE TABLE WORK.QUERY\_FOR\_HES\_APC AS**

```
SELECT t1.FYEAR, t1.PSEUDO_HESID, t1.PROCODE5, t1.CCG_RESIDENCE, t1.RESLADST, t1.REGGOR,
t1.ADMIMETH,
t1.DIAG_4_CONCAT, t1.OPERTN_4_CONCAT, t1.SUSHRG, t1.STARTAGE_CALC,
(SUM(t1.FAE)) FORMAT=11. AS SUM_of_FAE FROM (
SELECT * FROM HDIS9000.HES_APC_1112 t1 UNION ALL
SELECT * FROM HDIS9000.HES_APC_1213 t1 UNION ALL
SELECT * FROM HDIS9000.HES_APC_1314 t1) t1
WHERE (t1.REGGOR = 'E'
OR t1.PROCODE3 in
('RFS','RTG','RY8','RXM','RNQ','RT5','RY5','RP7','RNS','RP1','RX1','RHA','RK5','RWD','RWE')
OR t1.PROCODE5 in
('NTP13','NT427','NT441','NT450','NVC27','NV313','NTA04','NVC40','NT213','NT226','NT322','NVC23'))
AND t1.STARTAGE_CALC <= 18 AND t1.ADMIMETH not in ('82','83')
GROUP BY t1.FYEAR, t1.PSEUDO_HESID, t1.PROCODE5, t1.CCG_RESIDENCE, t1.RESLADST, t1.REGGOR,
t1.ADMIMETH,
t1.DIAG_4_CONCAT, t1.OPERTN_4_CONCAT, t1.SUSHRG, t1.STARTAGE_CALC;
QUIT;
```

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