East Midlands Strategic Clinical Networks

General Paediatric Surgery

Peer Support and Service Assessment Reviews 2014

Summary Report

September 2015

East Midlands Strategic Clinical Networks
Maternity and Children

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1. Executive Summary

This report summaries the process and findings of a peer support and service review process for general paediatric surgery (GPS) services undertaken across the nine units in the East Midlands. This review was carried out between September and December 2014, by the General Paediatric Network with the support of the East Midlands Maternity and Children's Strategic Clinical Network and was based around the East Midlands commissioning framework for general paediatric surgery. It aimed to:

- Provide assurance on the regional wide provision of general paediatric surgery
- Recognise and acknowledge progress in meeting the standards
- Identify current service delivery issues and challenges
- Identify any requirements for regional and Network support

The review examined the evidence indicating whether services are meeting the East Midlands Commissioner Framework standards, walked the patient pathway and met with clinicians and managers from all units. The data submitted suggests there were at least 1,875 elective & emergency GPS procedures during 2013-14 on children and young people under the age of 16 years. The review chose to concentrate on the emergency pathway of which emergency appendicectomy is by far the most common procedure.

Of the 31 standards reviewed over the 9 sites, approximately 75% were considered green and <23% amber and <2% red. The areas scoring red relate predominantly to the challenges of maintaining recommended children's nurse staffing levels within the ward areas.

The process identified some excellent practice and highlighted issues and challenges. There were many excellent examples of good practice, and high quality child friendly and appropriate facilities, with significant investment in refurbishment in a number of organisations. This report has recognised and acknowledged the progress made by the units in meeting the standards over the last two years and has made 15 wide ranging recommendations for provider trusts, the East Midlands GPS Network and local and specialised commissioners; to improve service delivery for this group of children and young people including the ongoing support for a paediatric surgical network. These recommendations include those related to; a lack of continuous, safe and sustainable 24/7 paediatric radiology cover for children within the tertiary centres at the time of the reviews, challenges in the recruitment and retention of children's trained nursing and other staff, the need for some ongoing local improvements in the environment, the process for recording mandatory training and evidence for continuous professional development, which should be strengthened and made more transparent and network initiatives related to improving pathways and clinical audit.

All trusts have been asked to develop local action plans to address any local issues identified and recommendations made in the reviews, many of which will inevitably have wider application for their children's services. Progress on these plans will be reviewed and monitored until June 2016 by the GPS network.

2. Background

In 2011 clinicians and commissioners came together under the auspices of the East Midlands Specialist Commissioning Group to review the way general paediatric surgery (GPS) was carried out in the East Midlands. There were two key drivers for this work: the first was the sustainability of GPS given the decreasing number of surgeons with appropriate training and the second was to identify gaps in the maintenance of core competencies for consultant surgical, anaesthetic and nursing teams.

The resulting commissioning framework was produced through clinical engagement and collaboration between the East Midlands Specialised Commissioning Group and surgeons, anaesthetists and managers from across the East Midlands. In addition an East Midlands General Paediatric Network was established, supported by the East Midlands Strategic Clinical Network for maternity & children. This provides a forum for discussion, learning and sharing, with the development of robust clinical pathways to improve sustainability and the quality of care.

The nine units providing general paediatric surgery within the East Midlands have undertaken two self-assessments against the standards within this commissioning framework, in 2012 and again in December 2013. Summary reports of collated results from all centres are available for each self-assessment period. These results contribute to the evidence of the quality of local services.

Surgical procedures within the category of general paediatric surgery commonly include:

Elective Day Case Surgery	Emergency GPS Surgery
Inguinal hernia/hydrocele	Abdominal pain/appendicitis
Umbilical hernia	Acute scrotum/torsion of the testis
Circumcision	Minor injury
Undescended testis	Abscesses (subcutaneous)
Minor soft tissue lumps	Irreducible inguinal hernia
Other simple procedures e.g. endoscopy	Lifesaving surgery

(This is not an exhaustive list)

3. Aim of the service assessment

Following discussions at the East Midlands General Paediatric Surgery Network project group it was agreed the Network would undertake a review that would offer peer support and review the services of each provider unit in order to:

- Provide assurance on the regional wide provision of general paediatric surgery
- Recognise and acknowledge progress in meeting the standards
- Identify current service delivery issues and challenges
- Identify any requirements for regional and Network support

4. Service assessment process

It was agreed by GPS network members that a supportive service review process would be used, based on the service standards and building on the results of the December 2013 self-assessment.

The review followed the GPS emergency surgery pathway only and did not consider other areas of children's surgery. However, the general principles and many of the individual standards are applicable to all types of children's surgery. In view of this 31 of the 50 standards from the framework document were considered (Appendix 2). These were clustered along the patient pathway into:

- Overarching standards
- Emergency department standards
- Ward and in-patient area standards
- Theatre and recovery area standards
- Pain management

The service review assessments involved a half day visit to each centre between September and December 2014. The visiting team met with key representatives of the provider services, walked the patient pathway, reviewed emergency and elective GPS activity data and considered the evidence supporting the self-assessment as stated at December 2013. A small amount of service and activity data was requested prior to each visit and the services were asked to have available information and evidence that they had used to determine the results of their December 2013 self-assessment.

Members of the review team focused on the standards most relevant to their area of expertise, although some were considered by all team members. In addition the review team explored the process of referral to or referral from one centre to another.

The assessment review team consisted of a combination of:

- Clinical lead paediatric surgeon for East Midlands GPS Network
- External consultant paediatric surgeons
- Consultant paediatrician (Strategic Clinical Network)
- Consultant anaesthetists
- Nurse consultant
- Clinical commissioning group representatives
- Patient/carer representatives
- Maternity and Children's Strategic Clinical Network representatives

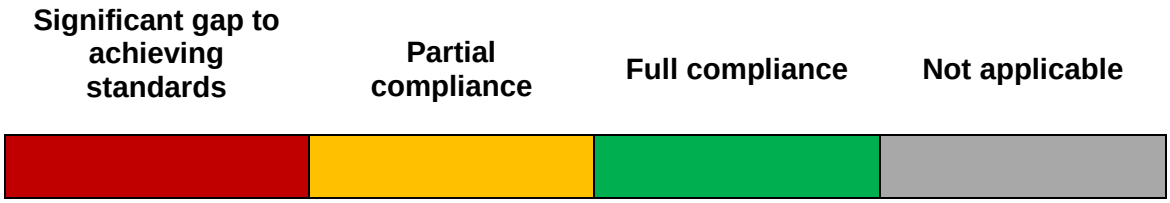
Names and details are set out in Appendix 3.

5. Service assessment reports

The focus of the peer support and service assessments and the resultant report was to:

- Consider opportunities for further improvement in the implementation of the service standards
- Identify issues and potential actions to support the delivery of a sustainable service

The outcomes of the assessment, as determined by the assessment review team based on the walk of the patient pathway, evidence presented and the local discussions at the visit were scored for each standard using the following scale:



The scores from the 2012 and 2013 assessments, for the associated standards used in the review, are also provided for information in Appendix 4.

Each organisation received a customised report which contained the review team scoring together with reference to the evidence presented, plus additional local commentary and recommendations.

6. East Midlands general paediatric surgical services

The standards and findings of these reviews are applicable to much of children's services in general although these visits had a specific focus on GPS and the emergency pathway.

The arrangements for the provision of general paediatric surgery in most of the trusts in the East Midlands varied. In the two larger tertiary centres, all of the GPS is provided by dedicated specialist paediatric surgeons. These teams provide support to the surrounding district general hospitals and undertake surgery on very young children, in complex cases or where a child is very sick. These tertiary services have full paediatric high dependency unit (HDU), critical care and anaesthetic support on site. These teams also provide the full out of hours' services.

Surgeons

In the surrounding 7 district general hospital sites, much of the GPS is elective daycase surgery covering a small group of procedures. This is often provided by visiting tertiary centre paediatric surgeons or by local adult surgeons with an interest in, and experience of paediatric surgery, or a combination of these. The local adult consultant surgeons may be general, vascular or urological surgeons. By and large these surgeons undertook GPS training as general surgical trainees and have continued to practice throughout their career. A significant number of these surgeons will retire in the next few years and this may provide a significant challenge in both service provision and training supervision. More recent adult general surgeon appointments will have undertaken basic training in surgery of childhood but may have limited experience of GPS. The table below sets out the provision of GPS surgery in the district general hospitals (DGH's):

DGH	Elective Surgery	Emergency Surgery
United Lincolnshire Hospitals (UHL)		
Boston	Local surgeon & Visiting Nottingham surgeon	Local team
Lincoln	Local surgeon	Local team
Sherwood Forest Hospital (SFH	Local surgeon	Local team
Derby Royal Hospital (DRH)	Local surgeon & Visiting Nottingham surgeons	Local team
Chesterfield Royal Hospital (CRH)	Local surgeon Visiting Nottingham surgeon	Local team
Kettering General Hospital (KGH)	Local surgeon & Visiting Leicester surgeons	Local team
Northampton General Hospital (NGH)	Local surgeon	Local team

The out of hours cover in the DGH's is provided by the general surgical on-call teams. For most trusts this includes not only those surgeons who undertake some elective GPS but also by consultants' teams who do not regularly undertake elective surgery on children The

majority of the emergency and out of hours surgery is undertaken by trainees who are required to be competent in basic emergency surgery in children. District general hospitals have policies and pathways for the care of very young children who require body cavity surgery, who are often transferred to the tertiary centres, although the age threshold for transfer varies and in some services is dependent on the experience of the consultant on call. In addition, testicular torsion may be managed by the adult urologists, by general surgeons or children may be transferred to the tertiary centres, depending on local provider policy. This is an area identified by the network where there needs to be agreement and strengthening of the pathways for these children.

Anaesthetists

The arrangements are similar for anaesthetists as for surgeons for elective general surgery of childhood in that there are dedicated paediatric anaesthetists at the tertiary centres and anaesthetists with an interest in paediatrics in the DGHs. However these anaesthetists also maintain their skills by undertaking children's work for a number of other surgical specialities, although the emergency on call rota may include anaesthetists with no day time sub speciality interest in paediatrics.

The patient flows and principle links to tertiary centres for GPS are indicted below;

District General Hospital	Tertiary Centre
United Lincolnshire Hospitals	NUH & UHL
Sherwood Forest Hospital	NUH
Derby Royal Hospital	NUH
Chesterfield Royal Hospital	NUH & Sheffield Children's Hospital
Kettering General Hospital	UHL
Northampton General Hospital	UHL & John Radcliffe Hospital Oxford

The table below provides some information on the number of surgeons involved in the delivery of GPS in each organisation. In terms of beds, arrangements vary from dedicated wards in the larger tertiary centres to a small number of dedicated daycase beds, or an area within the general paediatric ward being allocated to surgical patients.

Data for 2013/14	CRH	DRH	PHB	LCH	KGH	NGH	SFH	UHL	NUH
Number of surgeons operating on under 16 yrs. old	8	**9**	**6**	**8**	**8**	**15**	**15**	**7** paed surgeons	7 paed surgeons
Number of GPS patients transferred to another centre	10 in recent 6/12 audit	27	Data not available	Data not available	1	Data not available	Data not available	Not Applicable	Not Applicable

7. Activity

The 2011 census indicated there were 782,300 children and young people under 15 in the East Midlands and that the East Midlands has been one of the regions that has seen the greatest increase (13%) in children under 5 over the previous 10 years. Against this background service information and activity data was requested from each trust in advance of the visit.

The extent and format had been previously agreed by the GPS Network Group. The request included details of the OPCS codes to be used to identify the activity to allow meaningful comparison (Appendix 6). However it was apparent that a number of trusts and services found it difficult to provide the activity information. This was in part due to activity being shared between the adult surgical services and paediatrics. Although queries regarding accuracy were raised individually with trusts, the data should be treated with some caution, but is generally thought to be indicative of the volume of activity undertaken.

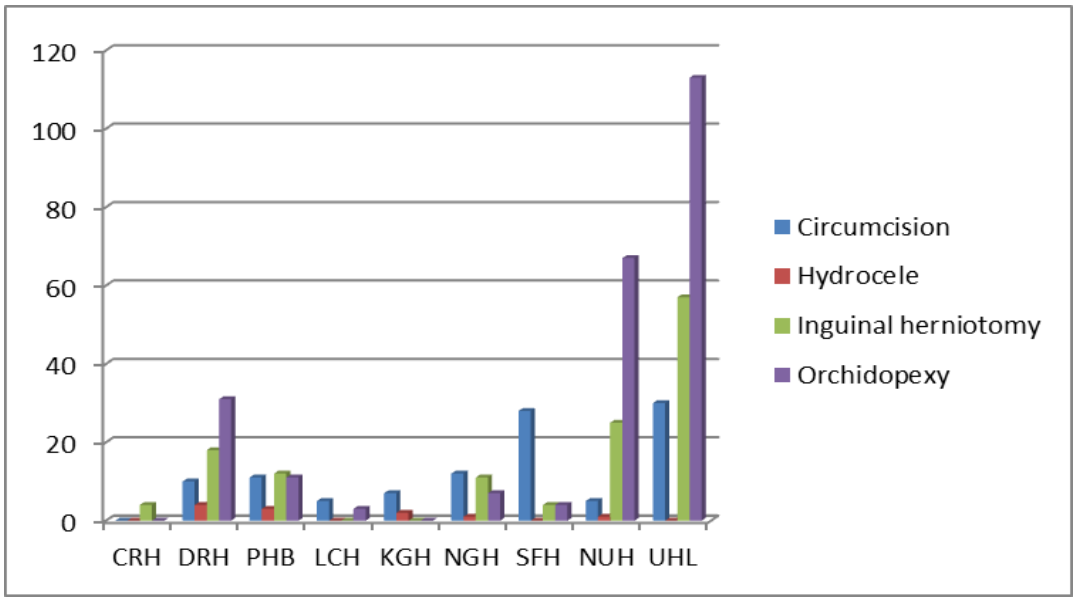
The data submitted suggests there were at least 1,875 elective and emergency GPS procedures during 2013-14 on children and young people under the age of 16 years.

Elective surgery

The charts below give an indication of the range of activity by unit for four of the most common elective procedures, split by age; under 5 years and 5 to 15 years for 2013-14 being the most recently available activity at the time of the reviews. Whilst this data does not cover all GPS procedures carried out across the East Midlands it provides an indication of the variation in activity levels. In 2013-14 there were 1,218 procedures, 556 circumcisions, 38 hydroceles, 197 inguinal hernia repairs, and 427 orchidopexies. to. Most of this surgery was carried out as day cases, with lower daycase rates being observed in the larger tertiary centres. This may be expected as complex cases and younger children are referred and managed in these centres.

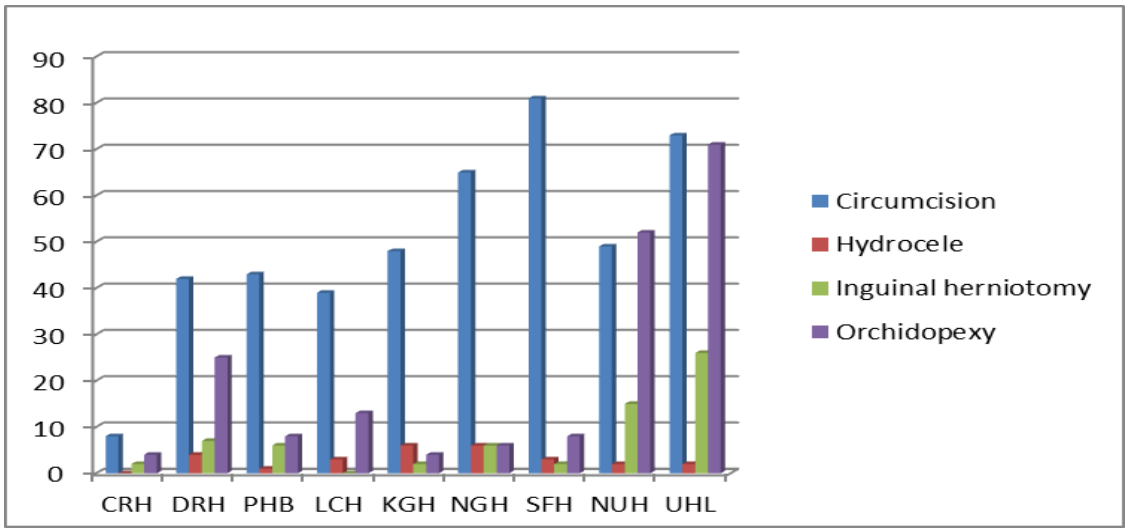
Figure 1. Selected GPS elective surgery in under 5's, 2013-14

(486 cases)



Of the 486 elective operations reported in under 5 year olds 39% where carried out within the DGH's and 61% in the tertiary centres Fig 1.

Figure 2. Selected GPS elective surgery in 5-15 year olds, 2013-14

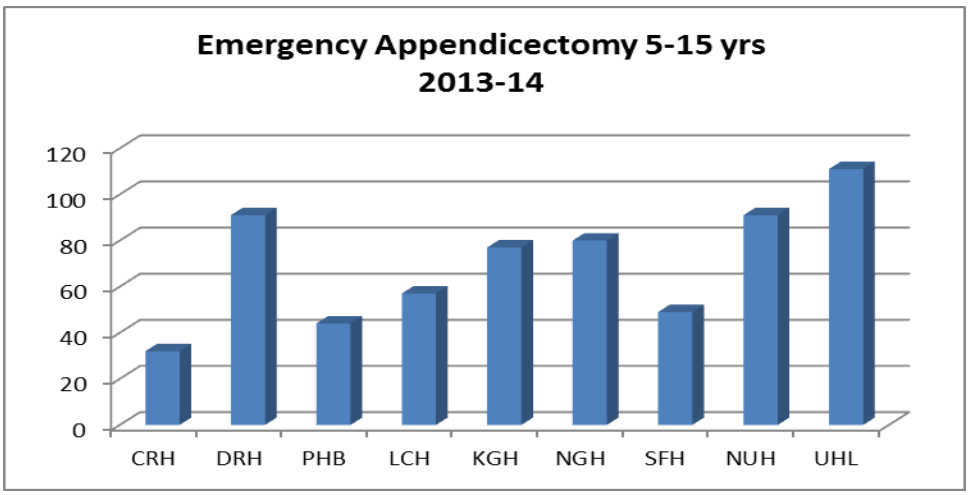


Of the 732 elective operations on 5-15 year olds in 2013-14, 60% (442) were carried out in the 7 DGH's and 40% (290) in the two tertiary centres. The most common elective procedure in this age group in the DGH's was circumcision accounting for 74% (326) of procedures. This apparently high level of circumcision in proportion to other cases was noted and warrants further consideration by the network.

Emergency surgery

The review considered emergency appendicectomy surgery as a exemplar for the pathways for emergency care and the the chart below gives an indication of the volume of emergency appendicectomy procedures by site. Overall there were 666 cases of emergency appendicectomy, across the East Midlands in 2013-14, of which 34 were on children under 5 years old with all but 6 of these carried out in the tertiary centres.

Figure 3. GPS emergency appendicectomy in 5-15 year olds, 2013-14



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430 (65%) children between five and 15 who underwent emergency appendicectomy in the seven DGH's centres providing care close to home. These operations were carried out by by 69 consultant surgeons' and their teams. This represents a significant number of children undergoing emergency surgery by adult surgical teams. Details of the numbers of these who are under 10 years old was not requested and a more detailed breakdown by age may be useful to provide greater understanding of patient flows. The general paucity and apparent lack of quality data from some centres is an issue for any benchmarking activity such as this review, but is also an issue for local services to be able to monitor their own acitivity and outcomes.

8. Assessment findings

The summary table of the ratings as determined by the review team following the visit to each organisation is given in Appendix 4. Of the 31 standards reviewed over the 9 sites, approximately 75% were considered green and <23% amber and <2% red. The areas scoring red relate predominantly to the challenges of maintaining recommended children's nurse staffing levels within the ward areas. However there were many excellent examples of good practice, and high quality child friendly and appropriate facilities, with significant investment in refurbishment in a number of organisations. Because many services look after a mix of medical and surgical patients many of the observations are applicable to children's services in general and are not all surgery specific. For all visits staff were welcoming and clearly proud of the work they do.

8.1 Overarching standards

The comments and observation below are set out following a review of the patient pathway and based on the standards used for the review visits (Appendix 2 provides details of each standard).

Whilst dedicated children's facilities are not universally available there are significant attempts to keep children separate from adults throughout the child's pathway of care. There is marked variability in the environments in which children are cared for and the extent to which they are dedicated to children. The review team saw new modern and spacious wards, emergency departments (ED's), x-ray and out patients facilities, as well as older and cramped, poorly separated spaces for children in an otherwise adult environment in need of refurbishment. However even in these settings there were examples of state of the art facilities in terms of distraction and sensory stimulation environments (CRH and KGH). The children's radiography room in CRH, children's daycase facilities in NUH, the adolescent areas in DRH were all excellent examples of dedicated child friendly facilities. For most services GPS patients are seen in designated paediatric outpatient areas. There were reports of children being seen by other surgical specialities in adult out patients' areas but this was not investigated in the review.

Theatre scheduling

The review saw examples of identified dedicated children's only day case lists, or dedicated children's surgery days and dedicated theatres. Other centres schedule

children first or last on adult lists for both elective and emergency surgery, particularly for older children. This is in line with current standards but is less than ideal as children may be exposed to distressing sights; the geography of many services requires children to travel through or by adult areas. Most services have created areas for waiting and recovery which are at least separate in part and child friendly although there is scope for improvement in the decoration and separation at some sites for both receiving and recovery.

Arrangements for children admitted to non-paediatric wards

There are a variety of arrangements for ensuring that those young people admitted to areas other than children's beds are linked to children's services. However the extent to which young people are offered choice of adult or children's ward was unclear in most centres, with variable thresholds for the offer; it is suggested that this should be audited to assure the trusts that these choice policies are working effectively. Facilities for adolescents and young people were variable across the East Midlands, with examples of dedicated and appropriate space in the emergency departments (SFH and CRH), and on the wards, where facilities varied from a small room to a dedicated modern recreation space with co-located beds (DRH).

Parent/patient information and support

There are a number of examples of local initiatives to gather feedback on patients experience and a variety of types of information available, including the use of 'Fabio the Frog'® from the national paediatric toolkit. However the availability of information related to the services in general and to surgery in particular was variable. The review saw some excellent examples of websites for children with age appropriate videos (SFH). Others had good quality, clear leaflets either condition specific or related to pain management. However, overall there was scope for improvement in most centres and the possible development of standardised advice and information leaflets which could be used by and customised by each service could be explored as a network initiative. There was little evidence of information available in alternative languages even where trusts report there were significant local ethnic populations with English as a second language. One centre reported plans to set up a system for localised printing in alternative languages (DRH). It was of note that one centre had plans to introduce pictorial signage to support way finding by those unable to read or for whom English was a second language (BPH).

Training

There are a number of standards referring to the training of staff who care for the child along the pathway (D2, B1, B2, C3, C4, D9). These relate to various levels of mandatory training in paediatric life support/resuscitation and specific training related to caring for children, as well as maintaining appropriate medical training and competence to handle emergency surgical care.

The evidence of training and updates was variable with some services having better centrally maintained records than others, particularly in relation to mandatory training. In general the evidence was better collated for nursing staff and doctors in training than for consultant staff. Centres reported that evidence of mandatory and other updating is considered as part of the consultant appraisal process, but records are not centrally held.

It was noted that a number of surgeons and anaesthetists from across the services had attended the network training event in March 2013 which provided some mandatory and clinical updates. A number of services reported the use of locally developed competency packages, for example for operating department practitioners (ODP's) and health care assistants (HCA's), where recognised paediatric training is not available or for adult trained nursing staff caring for children. However, competence assessment was not universally used. Where there are examples of good competency tools, this provides an opportunity for sharing to encourage network-wide working and quality assurance regarding the level of education, training and skills.

Improved recording of both mandatory and continuing professional development (CPD) training was recommended in several centres.

8.2 Emergency department (ED)

The physical environment for children within the emergency departments was found to be variable from bright, modern and customised design and physical separation from adults, to shared receptions with a small child's waiting area being the only obvious facility. Five centres have separate dedicated paediatric EDs, with three offering a 24/7 paediatric ED service (UHL, NUH, DRH), and two offering a separate ED during daytime or early evening hours (SFH, KGH). There are several good examples of facilities for adolescents and young people, although these were not present in all services. Most services have identified and appropriately decorated minor injury areas for children and young people and most have dedicated space for examination and care of more serious conditions. However, with the exception of a dedicated room for 'majors' in one trust (CRH), children are cared for in the main resuscitation areas, although usually in a bed space which has some child friendly decoration and appropriately sized equipment.

Radiology

With some notable exceptions (CRH, DRH), radiology facilities were not particularly child friendly and not usually available out of hours. The issues of access to 24/7 paediatric radiology has been well recognised both nationally and within the East Midlands and this was clearly identified during the reviews. There are full daytime services offered in both tertiary centres and a more extensive service in DRH than in other DGH's, but a full 24/7 service was not available in any centre at the time of the visits. This was considered to be unacceptable for tertiary centres offering complex and specialist paediatric care. It is noted that extensive efforts have been made to recruit additional appropriately trained radiologists, but this has proved very difficult and reflects a national shortage. There are some local day time solutions in the DGH's with services having local radiologists with an interest in, and some experience of children's radiology or the tertiary centre radiologists visiting on an agreed schedule for elective routine work. The use of PACS (picture archiving and communications system) to allow a remote opinion was reported in some centres. The review team strongly recommended the need to address this issue as a matter of urgency.

Paediatric resuscitation

Access to paediatric resuscitation from appropriately trained staff was available throughout all of the services. However a range of styles of resuscitation trollies were seen across the region, with some excellent examples evident utilising colour coding for rapid identification of age appropriate equipment. Whilst recognising the difficulties of introducing such changes, the reviewers noted the challenges for trainees in learning the variety of arrangements they encounter as they move around the East Midlands.

Nursing

Access to children's nursing within the ED was found to be variable ranging from all nursing staff being children's trained in a separate children's ED, to one nurse on each shift, to one or two nurses who provide support and some training to the adult staff when the children's nurses are not on duty.

Paediatric on-call surgical rotas

Arrangements for surgical on call rotas on all sites visited, were found to be safe and sustainable at the time of the visits. However, as noted previously, a number of existing adult surgeons undertaking paediatric work within the district general hospital settings will retire in the next few years. The newly qualified appointments may have limited experience of elective GPS and they may be required to supervise trainees providing the emergency surgical cover when they are then infrequently carrying out surgery on children. This is identified as an area of future concern which has also been raised with the Royal College of Surgeons.

8.3 Wards and in-patient assessment areas

Deteriorating child

All services reported and demonstrated their use of a Paediatric Early Warning Scoring (PEWS) tool. However a number of versions of this tool are in use. These may work well internally, but the use of different tools between the DGH's and the tertiary centres may impede communication when discussions around potential transfer or decisions about care are undertaken. It is of note that there is national work underway on developing a national PEWS tool, whose adoption should be considered when available.

High dependency unit arrangements

The level of commissioned and funded HDU beds is variable. Some services are commissioned by specialist commissioners, some are funded within the organisation and other centres have appropriately equipped, but unfunded bed spaces, in which to stabilise and care for a child in the short term pending transfer to a tertiary centre. Bed capacity for 2014-15 is given below:

Trust/site	Number of HDU beds (mixed medical and surgical use)
CRH	2 unfunded
DRH	3
PHB	0
LCH	0
KGH	2
NGH	3 (1 unfunded)
SFH	2 unfunded
UHL	6
NUH	4

Whilst transfer is not a frequent occurrence for GPS cases, it does occur for other surgical or most commonly medical patients. However, HDU transfers were reported to be a significant problem for all of the DGH's. There is no retrieval service for this category of patient and EMAS is used for transporting such patients. These transfers usually require a children's nurse escort, which can have significant local staffing implications for the wards from which the child is transported. The other real challenge for those services which do not have funded HDU beds is also the maintenance of relatively infrequently required skills to care for children needing this higher level of care pending transfer. Where children in these centres require ventilation, there are clear arrangements for children to be cared for within the theatre or adult intensive care unit (AICU) environments pending retrieval and transfer to paediatric intensive care (PICU).

Nurse staffing

The increase in the acuity of children, coupled with reducing length of stay, has increased the intensity of workload on paediatric wards. Therefore, the review team were not surprised to find that none of the wards visited had nurse staffing levels that met with current Royal College of Nursing (RCN) (2013) recommendations. Virtually all units reported challenges in the recruitment of suitably qualified staff, despite approval to undertake additional recruitment. Retention of nursing staff was also confirmed as a problem, as there is little opportunity for career progression and junior staff often leave to gain more specialist experience in the tertiary centres. However, DRH reported investment in significant local staff development, which helped support local retention. Other services had or were preparing business cases for additional staffing. There was limited use of acuity and dependency tools to support determining staffing levels. However, the RCN staffing guidance recommends using acuity tools as a means of providing evidence for adjusting staffing levels and for supporting any case for nursing establishments. ULH have developed a local tool which they are currently testing.

The lack of career progression for nurses working in the district general hospitals poses a barrier to effective recruitment and retention of appropriately skilled staff. There is a need to explore the use of advanced nurse practitioners (ANPs) in day case areas and surgical follow up services to reduce the work of the medical team, improve patient experience and provide a structure for career development in nursing. ANPs can provide good role models and teach and support ward staff to develop their skills in phlebotomy and cannulation, as well as assessment and management of children. This role may help

address some of the gaps in children's nursing education provision, with the use of good competency documents. This may in turn improve job satisfaction and positively impact on both recruitment and retention of both newly qualified and experienced nurses.

The establishment of an East Midlands nurse leaders group has been supported by the network. An agreed focus for future work for this group is to explore the use of standardised acuity and competency tools and consider how local PEWS tools are used whilst waiting for national tools to be available. A workshop event is planned for the autumn. This forum will also provide an opportunity to link with Health Education East Midlands in relation to workforce planning for children's nursing going forward.

Family accommodation

All centres provide some local accommodation for parents and carers, although the quality is variable; often pull down beds or recliner chairs next to the child. Some had sitting room and kitchen facilities as well as dedicated rooms close to the ward areas. These are predominantly used for families of children who are very sick or have long term care needs. Few services were able to offer facilities for siblings.

Play specialists

All trusts and services have access to play specialists. However, the level of cover and numbers of staff involved show significant variation. In some centres staff are available seven days a week in others there is a five day service. Some services have the capacity to cover all areas where children are cared for, including ED and accompanying children to theatre, whilst others have limited availability using play workers particularly where distraction is required or in pre-operative assessment. Several services were asked to consider their local arrangements to ensure the support is available in line with demand.

8.4 Operating theatres

Tertiary centre support

All centres reported they are able to access senior clinical advice from the tertiary centres. This has been further supported, since the reviews by the development of mobile telephone numbers accessible 24/7 for each tertiary centre, with a consistent and agreed operating policy for both centres. The existence of the GPS network has further supported communications between units with the development of personal relationships and networking. In addition anaesthetists from across the network have developed an informal group to provide local support and explore joint training opportunities.

8.5 Pain management services

All services reported having pain services. Whilst in some centres this was provided by designated or dedicated children's nurses, in others it was provided by the adult pain service and supported by anaesthetics. This does not meet with the RCN guidance that each organisation should appoint a dedicated lead facilitator to promote and support the implementation of pain assessment for all children, including those with cognitive impairment. Pain services were commended in DRH, NUH and UHL, although all centres were felt to be under-resourced and a review of this was recommended in several centres. The review saw examples of some excellent pain leaflets, information and

training policies, although evidence of updates or training was not always available. An appropriate range of pain assessment tools were in use. It is of note that DRH has contributed to the RCN guidance on pain assessment document (RCN 2009) with its Derbyshire children's hospital pain tool which is suitable for post-operative pain from, three years to 12 years. Other tools are in use across the region including the pain assessment component of the PEWS tool.

9. Recommendations

All trusts have been asked to develop local action plans to address any local issues identified and recommendations made in the reviews. Some of these will inevitably have wider application for children's services. Progress on these plans will be reviewed and monitored by the GPS network with completion by June 2016.

Some of the examples of good practice have been, and are being, shared across the network to support learning and improve quality of care. However based on the observations above and the individual trust reports, the review process identified a number of common and recurring themes which pose particular challenges.

Set out below are some key recommendations for consideration by:

- Individual organisations and services
- East Midlands GPS network
- Local and specialised commissioners

Table of recommendations

	Issue	Recommendation	Action
1.	Lack of continuous, safe and sustainable 24/7 radiologist cover for children within the tertiary centres at the time of the reviews.	A local solution for the delivery of safe, sustainable 24/7 paediatric radiology should be considered as a matter of urgency which may include a networked arrangement. Consideration given to DGH transfer pathways depending on radiology provision and availability, so that transfers only occur where the essential support is available.	Trusts and commissioners
2.	HDU Transfer	Consider a review of the paediatric HDU transfer arrangements across the East Midlands to ensure robust and timely pathways are in place.	Commissioners
3.	Maintaining sustainable elective care close to home	Support the promotion of shared consultant appointments between the DGH's and the tertiary centres to enable local services to maintain care close to home.	Trusts & commissioners
4.	Variable evidence of mandatory training/CPD for medical staff	Support for the development of training and CPD opportunities for existing surgeons and anaesthetists from across the area to work alongside paediatric surgeons and anaesthetists in the tertiary centres, by addressing barriers to governance arrangements with the use of the 'NHS Certificate of Fitness for Honorary Practice'. The process and recoding of the review of evidence for this competence and experience in the appraisal process could be strengthened and made more transparent.	Trusts & GPS network
5.	Challenges of recruiting and retaining paediatric nursing staff	• Develop a strategy to meet national nurse staffing recommendations • Working through the Children's Nurse Leaders group consider how the network can support the development and increased use of acuity and dependency tools to provide an evidence base for the provision of appropriate nurse staffing ratios. • Consider wider local implementation of the ANP role to enhance both service provision and the nursing career structure.	HEEM, Trusts & GPS network

	Issue	Recommendation	Action
6.	Non-medical staff training	Employ a network approach to the development of training in specialist children's nursing and to the development and use of competency assessment documents for other staff who do not have child health training.	GPS Network
7.	Variable access to play specialist services	Review play specialist services to ensure standards are met including supporting daytime emergencies	Trusts
8.	Use of different versions of PEWS tools	Consider opportunities to harmonise PEWS (Paediatric Early Warning) tools currently in use, prior to the development and roll out of a national PEWS tool in order to support consistency of assessment particularly where transfer may be required.	GPS network
9.	Variation in format quality and availability of information leaflets for parents and patients	Utilise the network to develop and agree standardised information leaflets for key procedures.	GPS network
10.	Local data quality and access	Trusts should consider improvement in their ability to access, identified and agreed local data to allow monitoring of local activity volume, profiles and outcomes to support quality improvement via benchmarking, audit, clinical practice and consultant appraisal.	Trusts
11.	Variable Child friendliness of theatre environments	Action to improve receiving/recovery areas in theatres	Trusts
12.	Admission to non-paediatric wards	Trusts consider local audits to ensure effective policies	Trusts
13.	Thresholds for emergency appendicectomy management of under5's	Agree a network policy around the emergency management of children under 5 years old, to provide a consistent approach across the geography to support sustainability of local services.	Trusts & GPS network

	Issue	Recommendation	Action
14.	Variable rates of circumcision	Review of the elective pathways to better understand local clinical practice and Identify rational for significant variation.	Trusts & GPS network
15.	Regional audit	Establish a regional audit programme through the GPS network to consider patient outcomes and experience	Trusts & GPS network

10. Summary

The standards and findings of these reviews are applicable to much of children's services in general, although these visits had a specific focus on GPS and the emergency pathway. The overarching principles for children's surgery are that children are treated safely as close to home as possible, in an environment suitable to their needs, with their parents involved in decisions and with the optimal quality of care being delivered. In addition, all those involved in children's surgical services should be suitably trained and supported. With the support of all providers within the GPS Network, this network peer support and service review process has endeavoured to consider how children's GPS is currently provided across the East Midlands. It examined some of the evidence indicating whether services are meeting the East Midlands Commissioner Framework standards, walked the patient pathway and met with clinicians and managers from all units.

The process, has provided some assurance on service delivery, identified some excellent practice and highlighted issues and challenges. It has recognised and acknowledged the progress made by the units in meeting the standards over the last two years. It has made 15 wide ranging recommendations for individual organisations and services, the East Midlands GPS Network and local and specialised commissioners to improve service delivery for this group of children and young people.

There was excellent clinical support for the process. The involvement of both experienced external clinicians and internal network clinicians gave the review team credibility and provided network clinicians forming part of the review team, opportunities for shared learning. One of the most significant challenges for several services was access to local activity data. Further work is needed both in terms of clearer specification of data items and the need for trusts to consider how these clinical services can access essential information, to be able to review their practice and outcomes.

Ongoing support for the East Midlands GPS network will;

- allow continued development of communication between and across professional groups including surgeons, anaesthetists and nursing staff
- provide a forum to bring together clinicians and commissioners to support commissioning and delivery of children's surgery that is safe and sustainable and as close to home as possible
- provide an opportunity for the sharing of learning, best practice and audit
- act as a vehicle to take forward network wide initiatives which require a regional or network wide approach or solution
- support a networked model of care
- raise the profile of GPS within the national and regional surgical training agenda

The wider circulation of the final report should help to raise the profile of general paediatric surgery to both commissioners and providers and highlight some of the challenges facing local services in the provision of this care.

We are grateful to the centres for their commitment and enthusiastic contribution to the review process, the welcome extended to the review teams and the obvious pride exhibited by many staff in the services they offered.

11. References

Commissioning Framework. A network approach to general paediatric surgery in the East Midlands 2013

Clinical Practice Guidelines. The recognition and assessment of acute pain in children. RCN September 2009

Defining Staffing Levels for Children and Young People's Services. RCN 2013

Standards for Children's Surgery. Children's surgical forum. RCS 2013

Healthcare Service Standards in caring for neonates, children and young people. RCN 2014

Standards for Non Specialist Emergency Surgical care of Children RCS 2015 (Consultation document)

Appendix 1 Glossary

ANP	Advanced nurse practitioner
APLS	Advanced paediatric life support
DGH's	District general hospitals
DRH	Derby Royal Hospital Foundation Trust
ED	Emergency department
EM	East Midlands
EMAS	East Midlands ambulance service
GPS	General paediatric surgery
HCA	Health care assistant
HDU	High dependency unit
KGH	Kettering General Hospital Foundation Trust
LCH	Lincoln County Hospital
NGH	Northampton General Hospital NHS Trust
NUH	Nottingham University Hospitals NHS Trust
ODP	Operating department practitioner
OPCS	Classification of surgical operations
PACS	Picture archiving and communication system
PEWS	Paediatric early warning
PHB	Pilgrim Hospital Boston
PICU	Paediatric intensive care
RCN	Royal College of Nursing
RN	Registered nurse
RN-C	Registered nurse – children's
SCN	Strategic Clinical Network
SFH	Sherwood Forest Hospital Foundation Trust
UHL	University Hospitals Leicester NHS Trust
ULH	United Hospitals Lincolnshire NHS Trust

Appendix 2 Standards used in review

OVERARCHING STANDARDS	
Standard	**Standard Statement**
B11	Elective surgical admissions for children must be scheduled on dedicated children's/young person's only theatre lists Where child only lists cannot be achieved, cases must be scheduled for the beginning of the list to facilitate day case care and minimise pre-operative fasting
B12	Children must be cared for in an appropriate child friendly environment
B13	Dedicated children's facilities must be available for children in the following areas: Day case units Operating theatres Recovery areas Radiology departments Outpatient clinics
D6	Children admitted to areas other than the identified paediatric surgical ward must be linked into a named paediatric nurse as soon as is possible. Where it is appropriate choice must be provided to teenagers/young people in terms of the most appropriate environment, i.e. paediatric ward, adult ward or young persons' facility (where those exist)
B22	Appropriate information and support must be available to parents/patients to enable them to fully participate in decisions about the care of their child.
EMERGENCY DEPARTMENT	
Standard	**Standard Statement**
B15	There must be a degree of physical separation between children and adults in the emergency department, particularly in the waiting and treatment areas
A4	The Trust must be assured that there is appropriate access to interdependent support services for the level of service provided – e.g. pathology, radiology
D2	Surgeons and anaesthetists taking part in an emergency on call rota which provides cover for emergencies in children must ensure that they have appropriate training and competence to handle the emergency surgical care of children who cannot be transferred, or who cannot wait unit a designated surgeon is available
B19	Paediatric resuscitation equipment must be available wherever and whenever children are treated, and anaesthetists must maintain their skills in paediatric resuscitation to the level of advanced paediatric life support or equivalent (equivalence is a matter for local agreement)
D3	All trusts with an emergency department must have staff available at all times who are trained in paediatric airway management and venous access
C6	A member of staff, trained and competent in advanced paediatric life support, must always be on shift on site
D13	Paediatric surgical on call rotas must be safe and sustainable

WARDS & IN PATIENT ASSESSMENT AREAS	
Standard	**Standard Statement**
B1	Registered nurses (RNs and RN-Cs) who work in elective day case and emergency settings must have achieved competency in basic paediatric life support training on an annual basis e.g. basic life support or PLS
A6	Trusts must ensure that they have protocols and procedures in place for identifying a deteriorating child and alerting appropriately trained personnel as necessary
C7 & D11	Clear arrangements for transfer to HDU/PICU must be in place Guidelines must be in place specifying where a critically ill child should be looked after until the child's condition improves or the retrieval team arrives
B8, B9 & C4	Trained nursing to patient ratio's must be: 1:3 for children under two years, 1:4 for children two years and over, and 1:5 at night There must be a minimum ratio of 1:1 nurses experienced in the post anaesthetic care of children in every area where children are being recovered from anaesthesia
B14	Overnight facilities must be available for parents/siblings/carers where the child requires an inpatient stay
B16	All children should have daily access to a person who specialises in play throughout their care episode
OPERATING THEATRES	
Standard	**Standard Statement**
B2	All anaesthetists/surgeons must ensure that they have appropriate annual training in paediatric life support/resuscitation
B20	The parents/carers must be able to be with the child on the pre-operative ward and, as far as is reasonable, in the anaesthetic induction room and when collecting the child from recovery, and be able to participate in the care of the child on the ward
C3,C4 and D9	The staff assisting the anaesthetist must include operating practitioners/assistants and anaesthetic nurses who have specific paediatric training and skills
D4	All lifesaving procedures will be carried out at the point of admission with telephone support, if required, from the specialist surgical on call team
D5	Trusts must ensure there is a paediatric resuscitation rota for the resuscitation of very sick children, which is led by APLS trained staff.
PAIN MANAGEMENT	
Standard	**Standard Statement**
B3	All units must have a properly staffed acute pain service which covers the needs of children, with a clear policy for advice about management of pain at home, and the provision of take home analgesia where appropriate
B4	All children must have an appropriate pain management assessment and management plan
B5	All registered nurses (RNs and RN-Cs) must have received formal training in the use of paediatric pain assessment tools

Appendix 3 The assessment review team members

Name	Title/Role	Reviews Attended
Richard Stewart	Network Clinical Lead Consultant Paediatric Surgeon	ULHT, SFHFT, DRHFT, NGHT, KGHFT, CRHFT
Rowena Hitchcock	External Consultant Paediatric Surgeon	UHLT, NUHT, ULHT, NGHT, KGHFT
Roly Squire	External Consultant Paediatric Surgeon	UHLT, NUHT, CRHFT
Nigel Ruggins	External Consultant Paediatrician (EMSCN)	ULHT
Carol Williams	Independent Consultant Paediatric Nurse	All Trusts
William Russell	Consultant Paediatric Anaesthetist	NUHT
Paul Martin	Consultant Paediatric Anaesthetist	UHLT, ULHT
Polly Davies	Consultant Paediatric Anaesthetist	SFHFT, DRHFT
Suganthi Joachim	Consultant Paediatric Anaesthetist	CRHFT
Puran Kanderwal	Consultant Paediatric Anaesthetist	NGHT, KGHFT
Marie Thomas	Parent	UHLT, NUHT
Nicole Barnes	Parent	ULHT, SFHFT, DRHFT, NGHT, KGHFT, CRHFT
Sam Little	CCG Commissioner of children's services	UHLT
Kate Allen	CCG Commissioner of children's services	NUHT, SFHFT
Helena Cripps	CCG Commissioner of children's services	NUHT
Wendy Martin	CCG Commissioner of children's Services	ULHT
Kate Taylor	CCG Commissioner of Children's services	DRHFT, CRHFT
David Bailey	CCG Commissioner of Children's Services	NGHT, KGHFT
Sharon Verne	East Midlands SCN representative	UHLT, NUHT, ULHT, SFHFT, DRHFT,
Joanne Harrison	East Midlands SCN representative	NGHT, KGHFT

Appendix 4 Standard scores at service reviews

Review Assessments	CRH	DRH	PHB	LCH	KGH	NGH	SFH	NUH	UHL
Overarching Standards									
B11									
B12									
B13									
D6									
B22									
Emergency Department									
B15									
A4									
D2									
B19									
D3									
C6									
D13									
Wards & In-patient Assessment Areas									
B1									
A6									
C7									
D11									
B8									
B9									
C4									
B14									
B16									
Operating Theatres									
B2									
B20									
C3									
C4									
D9									
D4									
D5									
Pain Management									
B3									
B4									
B5									

Appendix 5 Standard Scores at Service Reviews (SR) compared to most recent self-assessment scores of 2013

	CRH		DRH		PHB		LCH		KGH		NGH		SFH		NUH		UHL	
	13	SR	13	SR	13	SR	13	SR	13	SR	13	SR	13	SR	13	SR	13	SR
Overarching Standards																		
B11																		
B12																		
B13																		
D6																		
B22																		
Emergency Department																		
B15																		
A4																		
D2																		
B19																		
D3																		
C6																		
D13																		
Wards & In patient Assessment Areas																		
B1																		
A6																		
C7																		
D11																		
B8																		
B9																		
C4																		
B14																		
B16																		
Operating Theatres																		
B2																		
B20																		
C3																		
C4																		
D9																		
D4																		
D5																		
Pain Management																		
B3																		
B4																		
B5																		

Appendix 6 OPCS codes used to determine activity

Key Procedure	OPCS Codes to be used
Medical circumcision	N303
One Stage inguinal Orchidopexy	N08.2,N09.2
Emergency Appendicectomy	H01.1, H01.2, H01.3, H01.8, H01.9, H02.9,
Hydrocele	N11.1, N11.2, N11.3, N11.4, N11.5, N11.6, N11.8, N11.9
Umbilical Hernia	T24.1, T24.2, T24.2, T24.3, T24.4, T24.8, T24.9, T97, T97.1, T97.2, T97.8, T97.9
Infant herniotomy	T19.1 , T19.2