WM QRS West Midlands Quality Review Service

NHS

West Midlands Paediatric Critical Care Network

Care of Critically Ill & Critically Injured Children Quality Review Visit

University Hospitals Birmingham NHS Foundation Trust

Visit Date: 18th September 2018 Report Date: November 2018

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UKAS INSPECTION 8831

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INTRODUCTION

This short report presents the findings of the review of the care of Critically Ill and Critically Injured Children that took place on 18th September 2018. The review visit was commissioned by the West Midlands Paediatric Critical Care Network (WMPCCN), on behalf of commissioners and NHS England who have responsibility for making recommendations on future provision for the delivery of paediatric critical care. This review programme links to both a National Paediatric Critical Care Review; and a West Midlands Paediatric Critical Care CQUIN. The CQUIN outlined a requirement for all West Midlands children's services to be assessed against the WMQRS /Paediatric Intensive Care Society (2016) Standards for the Care of Critically Ill Children (v.5) by July 2017.

The purpose of the visit was to validate the self-assessments made by the acute Trust, and to review the pathway for critically ill children attending the Emergency Department and Children's assessment unit through to inpatient and high dependency inpatient areas where applicable. As part of the WMPCCN programme, information was also gathered about existing capacity to provide paediatric high dependency care at a local level, and the plans that may be required to deliver a higher level of paediatric critical care nearer to the patient's home in the future. Only a select number of Quality Standards were reviewed during this visit. The Quality Standards identified were agreed by the WMPCCN as being important to provide the information required to inform commissioners as part of the National CQUIN for 2017/18. The review visit consisted of a half-day visit, during which reviewers looked at evidence against the self-assessment submitted, met with the lead team for children's services and viewed facilities. This review programme was therefore not as in-depth as the Critically Ill and Critically Injured Children peer review programmes undertaken across the West Midlands in previous years, but was designed to provide specific assurances.

The aim of the standards and the review programme is to help providers and commissioners of services to improve clinical outcomes and service users' and carers' experiences by improving the quality of services. The report also gives external assurance of the care, which can be used as part of the organisations' Quality Accounts. For commissioners, the report gives assurance of the quality of services commissioned and identifies areas where developments may be needed.

The report reflects the situation at the time of the visit. The text of this report identifies the main issues raised during the course of the visit. Any immediate risks identified include the Trust's response and WMQRS's response to any actions taken to mitigate the risk. Appendix 1 lists the visiting team that reviewed the services at University Hospitals Birmingham NHS Foundation Trust

Appendix 2 contains the details of compliance with each of the standards and the percentage of standards met.

This report describes services provided or commissioned by the following organisations:

- University Hospitals Birmingham NHS Foundation Trust
- NHS Birmingham and Solihull Clinical Commissioning Group

Most of the issues identified by quality reviews can be resolved by providers' and commissioners' own governance arrangements. Many can be tackled by the use of appropriate service improvement approaches; some require commissioner input. Individual organisations are responsible for taking action and monitoring this through their usual governance mechanisms. The lead commissioner for the service concerned is responsible for ensuring action plans are in place and monitoring their implementation, liaising, as appropriate, with other commissioners, including commissioners of primary care. The lead commissioner in relation to this report is NHS Birmingham and Solihull Clinical Commissioning Group.

ABOUT WEST MIDLANDS QUALITY REVIEW SERVICE

WMQRS is a collaborative venture between NHS organisations in the West Midlands to help improve the quality of health services by developing evidence-based Quality Standards, carrying out developmental and supportive quality reviews (often through peer review visits), producing comparative information on the quality of services and providing development and learning for all involved.

Expected outcomes are better quality, safety and clinical outcomes, better patient and carer experience, organisations with better information about the quality of clinical services, and organisations with more confidence and competence in reviewing the quality of clinical services. More detail about the work of WMQRS is available on www.wmqrs.nhs.uk

ACKNOWLEDGMENTS

West Midlands Quality Review Service and the West Midlands Paediatric Critical Care Network would like to thank the staff and service users and carers of University Hospitals Birmingham NHS Foundation Trust for their hard work in preparing for the review and for their kindness and helpfulness during the course of the visit. Thanks are also due to the visiting team and their employing organisations for the time and expertise they contributed to this review.

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CARE OF CRITICALLY ILL AND CRITICALLY INJURED CHILDREN

TRUST- WIDE

General Comments and Achievements

Good team working within and between services was in evidence throughout the review.

This review looked at the care of critically ill and critically injured children in the Emergency Departments at Good Hope Hospital (GHH) and Birmingham Heartlands Hospital (BHH). Children's Assessment Unit (CAU) at GHH and the Paediatric Assessment Unit (PAU) at BHH were reviewed as well as the inpatient and high dependency unit at BHH. The paediatric services provided at Solihull Hospital were not included in this review.

Some comments in the Trust-wide section of this report apply to more than one service and so are not duplicated in other areas of the report.

Good Practice

1. Operational polices were very clear about the criteria for caring for ill children across all sites, with clear step by step information about escalation between the wards, HDU and tertiary providers. The inter-hospital guidelines were also very clear and included easy to follow flow charts.
2. At GHH there were good processes in place for stabilising the sick child and for moving staff from BHH to the child rather than the other way around, especially if there were delays in transferring the child. (See also concerns in the HDU section of the report.)
3. Reviewers were impressed with the development of Advanced Care Practitioners at both sites, these staff members were being trained to assess and treat patients and undertake some middle grade clinical activities.
4. In some areas of the Trust, equipment in the resuscitation trolleys was in sealed trays, which meant that only trays that were used or damaged would require replenishing. This reduced the level of equipment checking required. (See also Concerns section of the report in this section in relation to resuscitation trolleys.)

Concerns

1. **High dependency transfers to Birmingham Heartlands Hospital**

   Reviewers were concerned about delays and difficulties in transferring sick children from GHH ED and CAU to BHH for the following reasons:

   a. The CAU at GHH had insufficient staff on duty to escort and therefore were often reliant on a member of staff travelling from BHH to escort the child. This could result in delays to the transfer.

   b. Not all staff on the CAU at GHH had the expected level of resuscitation training (see Concerns 2 below).

   c. If children were on Continuous Positive Airway Pressure ventilation (CPAP) then they were reliant on the KIDS Intensive Care and Decision Support Service (KIDS) having capacity to undertake the transfer.

   d. The hi-flow nasal cannula oxygen machines that had been purchased were not mobile, as had been thought, and therefore could not be used when transferring children.

   This issue would have been an immediate risk had the nurses working in the CED not been skilled in HDU care so that they could support a child at GHH whilst awaiting transfer with support from the anaesthetic and ITU services on site. Reviewers were told that the issue was on the Trust risk register.

2. **Resuscitation training**

   Nursing staff working in the CAU at GHH and inpatient wards at BHH, did not have the expected level of resuscitation training. For the assessment unit only five out of 23 staff had advanced paediatric resuscitation and life support competences and seven nurses with paediatric immediate life support competences. For the inpatient

ward only 52% of the Band 6 nurses (11out of 21) had advanced paediatric resuscitation and life support competences with the remaining staff only having paediatric basic life training. Ward 16 had only 70% of staff, and Ward 17 60% of staff, with up to date competences in advanced paediatric resuscitation and life support.

Although staff from the HDU did provide support to the ward, reviewers were concerned that paediatric basic life support was not enough for the level of care being provided on the ward, especially as the HDU staff might also be required to support GHH when a child was awaiting transfer to level 2 or 3 care.

Reviewers were particularly concerned because of the level of dependency of children and young people cared for on the wards, and reviewers were told that there were difficulties in obtaining funding for staff to attend advanced resuscitation and life support courses.

3. **Resuscitation trolleys**

   Resuscitation trolleys were not sealed in the paediatric areas. Reviewers were told that this was because the trays inside were sealed. Reviewers considered that there was the potential for the resuscitation trolleys to be tampered with by children, especially where the trolleys were not always visible to staff. The Trust resuscitation policy did not appear to reflect this practice.

4. **Consultant staffing**

   The Trust had four dual trained paediatric and adult emergency medicine consultants out of an establishment of twenty emergency medicine consultants. Consultants were on site until 10pm and covered both sites. Given the activity on both sites (annual unplanned paediatric attendances at GHH were 17,746 and at BHH 33,596 for 2017), reviewers considered that four dual trained emergency medicine consultants were insufficient to provide appropriate paediatric cover, especially on the GHH site.

5. **Initial clinical assessments**

   At the time of the visit the Trust standard was to undertake a brief clinical assessment of a child within 30 minutes of arrival rather than the standard of 15 minutes. At the time of the visit an initial clinical assessment of children at both assessment units within 15 minutes of arrival only took place for 87% of children at GHH and 64% at BHH. Reviewers were concerned that children could deteriorate whilst waiting to be seen. Reviewers were told that staff would make a judgment on arrival as to whether the child required seeing, but this check did not include the recording of observations.

Further Consideration

1. A hospital wide group included terms of reference for the three sites but did not appear to name all the clinical leads identified including the Board-level lead for children and a named lead for general intensive care for children Reviewers considered that the terms of reference should be reviewed to ensure that all the relevant leads were involved.
2. Access to Child and Adolescent Mental Health Services (CAMHS) for those residing in Birmingham was only available five days a week. Children and young people admitted out of hours on a Friday would therefore not be seen by a member of the CAMHS team until the following Monday. For children and young people residing in Solihull a seven-day CAMHS service was in place.
3. Nurse competences were in place for all staff, but reviewers considered that the format would benefit from review to be more standardised across the services, and suggested that collating it into booklet format may be more user friendly.
4. Many of the guidelines and protocols were in the process of being reviewed and reviewers were shown a mixture of guidelines that were out of date and guidelines that had been adopted across University Hospitals Birmingham NHS Foundation Trust. The policy for staff wellbeing was good but had not been reviewed since 2013, and staff who spoke to the reviewers were unfamiliar with the policy.

5. Paediatric Critical Care Minimum Data Set was being collected at GHH and the inpatient sites. Reviewers considered that it was important that data were submitted from all other areas where children were being cared for over the four-hour timeframe so that data accurately reflected Trust activity for this group of patients. Also, it would be important to ensure that data on transfers between sites was submitted to the WMPCCN.

Children's Emergency Department – Good Hope

General Comments and Achievements

The Emergency Department (ED) was well organised and facilities for parents were good. Reviewers were impressed with the progress that had been made following previous review visits on the care of critically ill and injured children. There was evidence of good leadership from the nurse lead for ED.

A robust system for assessment was in place using a modified Manchester Triage tool, an electronic PEWS assessment and sepsis assessment. The criteria and processes were clear as to which children should be transferred so that admissions to the CAU were appropriate. Staff who met with the reviewing team were appreciative of the support from anaesthetics services.

Good Practice

1. All nurses had appropriate competences for their work in the ED. The competence framework also included high dependency care competences.
2. All Band 7, and all but one Band 6, staff had completed either advanced paediatric resuscitation and life support (APLS) or the European Paediatric Advanced Life Support (EPALS) training. All other staff had completed paediatric immediate life support (PILS) training.
3. Play and distraction therapy was available in the ED daily from 7am – 7pm.

Immediate Risks: None

Concerns

1. See Trust-wide section of the report (under Concerns).

Further Consideration

1. See Trust-wide section of the report (under Further Consideration)

Children's Assessment and Inpatient Unit (CAU/IP) -Good Hope

General Comments and Achievements

The CAU was a 12- bedded short stay ward comprising six CAU and six inpatient beds. A Band 6 nurse was on duty for most shifts, and cover was available from BHH if required.

One consultant paediatrician was on site between 9am and 5pm covering the assessment unit and inpatient area with an additional consultant covering the neonatal service. Between 5pm and 8.30 pm one consultant would be on site for both the neonatal and the paediatric services. Outside these hours one consultant was on call for both areas.

There was a good working relationship with ED staff and staff at BHH.

Good Practice

1. See Trust-wide section of the report (under Good Practice)

Immediate Risks: none

Concerns

1. See Trust-wide section of the report (under Concerns).

Further Consideration

1. See Trust-wide section of the report (under Further Consideration).

CHILDREN'S EMERGENCY DEPARTMENT – BHH

General Comments and Achievements

The paediatric area within the ED was well organised. Since the last visit, the entry arrangements had changed so that children and young people entered the ED via a separate entrance. The unit was spacious and welcoming and had a separate area for adolescent patients.

Good Practice

1. See Trust-wide section of the report (under Good Practice).
2. Play and diversional therapy was available in the ED daily from 7am to 7pm.

Immediate Risks: None

Concerns

1. See Trust-wide section of the report (under Concerns).

Further Consideration

1. One ED Consultant did not have up to date training in advanced paediatric resuscitation and life support competences.
2. See also Trust-wide section of the report 9under Further Consideration).

PAEDIATRIC ASSESSMENT UNIT (PAU), IN-PATIENT WARD AND PAEDIATRIC HIGH DEPENDENCY UNIT – BHH

General Comments and Achievements

The paediatric ward, PAU and high dependency unit (HDU) were well organised and benefited from being located close together. Staff who met the reviewing team clearly worked well together. Staff were very knowledgeable about escalation policies and procedures and there were good links with the KIDS team. There was a flexible approach to staffing and staff would also support the teams at GHH when required.

Good Practice

1. Reviewers were impressed with the physiotherapy support to the high dependency unit. Physiotherapists would lead on the care of children on non-invasive ventilation (NIV), and had the skills to commence and maintain children on NIV including altering oxygen rates.
2. The level of HDU care provided on the unit was often very complex and reviewers were impressed with the work of the team in caring for children at this level of sickness. Staff were proactive in managing the flow through the unit. On the morning of the visit, seven children had been admitted to the four-bedded unit, and had either been discharged to the ward or transferred.

Immediate Risks: None

Concerns

1. **Consultant paediatric cover**

   At the time of the visit consultant staffing and job plan allocation for HDU cover was not sufficient for a level 2 HDU. Temporary funding had made it possible to increase the consultant presence on the ward and HDU which meant that all children were reviewed within 14 hours of admission and there were at least two consultant-led

clinical handovers every 24 hours. At the time of the visit the paediatric services were preparing a business case to increase paediatric presence across the inpatient areas.

2. See also Trust-wide section of the report

Further Consideration

1. The HDU policy would benefit from review to reflect practice including the process and timeframes for a consultant review of children in the unit.
2. The estates for PAU, inpatient and HDU areas at BHH were not ideal in terms of layout and condition. Children once triaged would walk through the PAU to the waiting area which was not conducive to their privacy and dignity. Reviewers were told that this pathway had been implemented following an incident with the previous layout where those waiting to be triaged were not visible to staff.
3. Band 7 staff did not work on the ward at weekends as Band 7 cover was available from the HDU. Reviewers considered that this had the potential to place increased demands on HDU staff who may also be required to support sick children at GHH who were awaiting transfer to BHH or level 3 HDU elsewhere across the region.
4. See also Trust-wide section of the report

EXISTING HDU CARE AND PLANS FOR THE FUTURE

As part of the visit, the WMPCCN was keen to hear from staff about their views on the future delivery of critical care for children across the region.

The paediatric service was already caring for some children requiring level 2 care but recognised that to continue and develop the service, there would need to be some capital and workforce investment.

At the time of the visit, HDU care could be provided for children who required continuous positive airway pressure ventilation (CPAP).The unit was able to provide non- invasive continuous positive airway pressure (CPAP) and bilevel positive airway pressure ventilation (BiPAP) to support children to a certain level before transferring them to a paediatric intensive care unit.

The Trust team and reviewers identified several areas for consideration by both the Trust and WMPCCN in the designation and provision of level 2 HDU care across the West Midlands.

1. Consultant and medical staffing for the HDU at BHH would need to be increased to enable more frequent consultant review.
2. A workforce review would be required to ensure that the BHH HDU had enough staff with appropriate competences to care for more complex level 2 children.
3. Reviewers were told of plans to improve the estates for the paediatric inpatient areas at BHH, but the plans for the new children's ward did not include any increase in HDU capacity.
4. Staff who met the reviewers commented that the increased use of hi-flow nasal cannula oxygen treatment had increased the number of children who required more intensive support, and had made transferring children more difficult if the KIDS team was not available. Consideration as to how children would be transferred to the HDU in the future would need to be agreed in terms of workforce and transport needs.

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APPENDIX 1 MEMBERSHIP OF VISITING TEAM

Visiting Team		
Dr John Alexander	Clinical Director, PICU	University Hospitals of North Midlands NHS Trust
Juliet Brown	Network Coordinator	Birmingham Women's and Children's NHS Foundation Trust
Ally Davies	Network Lead/BWC Transformation Manager	Birmingham Women's and Children's NHS Foundation Trust
Caroline Whyte	Divisional Director of Nursing Children, Young People and Neonates (Acute and Community) WCCSS	Walsall Healthcare NHS Trust

WMQRS Team		
Sarah Broomhead	Assistant Director	West Midlands Quality Review Service

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APPENDIX 2 COMPLIANCE WITH THE QUALITY STANDARDS

Analyses of percentage compliance with the Quality Standards should be viewed with caution as they give the same weight to each of the Quality Standards. Also, the number of Quality Standards applicable to each service varies depending on the nature of the service provided. Percentage compliance also takes no account of 'working towards' a particular Quality Standard. Reviewers often comment that it is better to have a 'No, but', where there is real commitment to achieving a particular standard, than a 'Yes, but' where a 'box has been ticked' but the commitment to implementation is lacking. With these caveats, table 1 summarises the percentage compliance for each of the services reviewed.

Table 1 - Percentage of Quality Standards met

Details of compliance with individual Quality Standards can be found in a separate document.

Service	Number of Applicable QS	Number of QS Met	% met
Hospital-wide	10	6	60
Emergency Department – Good Hope Hospital	21	19	90
Emergency Department – Birmingham Heartlands Hospital	21	20	95
Children's Assessment Service - Good Hope Hospital	22	18	82
Children's Assessment Service - Birmingham Heartlands Hospital	22	19	86
In-patients	20	19	95
Level 2 PCCU - Birmingham Heartlands Hospital	25	24	96
Health Economy	**141**	**125**	**89**

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HOSPITAL-WIDE

Ref	Standard	Met?	Reviewer's comments
HW-201	**Board-Level Lead for Children** A Board-level lead for children's services should be identified.	Y	
HW-202	**Clinical Leads** The Board-level lead for children's services should ensure that the following leads for the care of children have been identified: a. Lead consultants and nurses for each of the areas where children may be critically ill (QS **-201) b. Lead consultant for paediatric critical care c. Lead consultant for surgery in children (if applicable) d. Lead consultant for trauma in children (if applicable) e. Lead anaesthetist for children (QS A-201) f. Lead anaesthetist for paediatric critical care (QS A-202) g. Lead GICU consultant for children (QS A-203) (if applicable) h. Lead consultant/s and lead nurse/s for the Specialist Paediatric Transport Service (QS T-201) (if applicable) i. Lead consultant and lead nurse and for safeguarding children j. Lead allied health professional for the care of critically ill children	N	The Trust did not have a local GICU lead named.
HW-203	**Hospital Wide Group** Hospitals providing hospital services for children should have a single group responsible for the coordination and development of care of critically ill and critically injured children. The membership of this group should include all nominated leads (QS HW-202) and the Resuscitation Officer with lead responsibility for children. The accountability of the group should include the Hospital Lead for children's services (QS HW-201). The relationship of the group to the Trust's mechanisms for safeguarding children and clinical governance issues relating to children should be clear.	N	From the evidence seen the group membership did not include the leads listed in 201 and 202. It was not clear that this group had the mandate as defined in the QS

Ref	Standard	Met?	Reviewer's comments
HW-204	**Paediatric Resuscitation Team** A paediatric resuscitation team should be immediately available at all times, comprising at least three people: a. A Team Leader with up to date advanced paediatric resuscitation and life support knowledge and competences and at least Level 1 RCPCH (or equivalent) competences (QS PM-203) b. A second registered healthcare professional with up to date advanced paediatric resuscitation and life support competences An anaesthetist, or other practitioner, with up to date competences in advanced paediatric resuscitation and life support and advanced airway management	Y	
HW-205	**Consultant Anaesthetist 24 Hour Cover** A consultant anaesthetist with up to date competences in advanced paediatric resuscitation and life support and advanced paediatric airway management who is able to attend the hospital within 30 minutes and does not have responsibilities to other hospital sites should be available 24/7.	Y	
HW-206	**Other Clinical Areas** Staff in other clinical areas where children may be critically ill, such as imaging and paediatric out-patient departments, should have basic paediatric resuscitation and life support training.	Y	Children who were critically ill were always accompanied to imaging by a paediatric member of the team. All staff in Paediatric Outpatient Department had PBLS training.
HW-401	**Paediatric Resuscitation Team – Equipment** The paediatric resuscitation team should have immediate access to appropriate drugs and equipment which are checked in accordance with local policy.	N	Resuscitation trolleys in the paediatric areas were unlocked with sealed trays. Reviewers were concerned that children could easily tamper with equipment.
HW-501	**Resuscitation and Stabilisation** Protocols should be in use covering resuscitation and stabilisation, including: a. Alerting the paediatric resuscitation team b. Arrangements for accessing support for difficult airway management c. Stabilisation and ongoing care d. Care of parents during the resuscitation of a child	Y	

Ref	Standard	Met?	Reviewer's comments
HW-598	**Trust-Wide Guidelines** The following Trust-Wide guidelines should be in use: a. Consent b. Organ and tissue donation c. Palliative care d. Bereavement e. Staff acting outside their area of competence covering: f. Exceptional circumstances when this may occur g. Staff responsibilities h. Reporting of event as an untoward clinical incident i. Support for staff	N	The Tissue Donation Team were in the process of revising the Organ and Tissue Donation Policy to ensure it was in line with UHB policy. The policy was out of date and did not includes paediatrics. Palliative care guidelines were not yet in place though the WM Paediatric Palliative Care Network toolkit was in place For Bereavement the Trust Bereavement service would sign post to outside agencies but a formal policy was not yet in place. For staff acting outside their area of competence only 'iv' was met.
HW-602	**Paediatric Critical Care Operational Delivery Network Involvement** At least one representative from the Trust should attend each meeting of the Paediatric Critical Care Operational Delivery Network. Information about the work of the network should be disseminated to all staff involved in the provision of critical care for children	Y	

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EMERGENCY DEPARTMENT

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-201	**Lead Consultant and Lead Nurse** A nominated lead consultant and lead nurse should be responsible for staffing, training, guidelines and protocols, governance and for liaison with other services. The lead nurse should be a senior children's nurse. The lead consultant and lead nurse should undertake regular clinical work within the service for which they are responsible.	Y		Y	
ED-202	**Consultant Staffing** a. A consultant who is able to attend the hospital within 30 minutes and who does not have responsibilities to other hospital sites should be available 24/7 b. All consultants should have up to date advanced paediatric resuscitation and life support competences and should undertake CPD of relevance to their work with critically ill and critically injured children	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-203	**'Middle Grade' Clinician** A 'middle grade' clinician with the following competences should be immediately available at all times: a. Advanced paediatric resuscitation and life support b. Assessment of the ill child and recognition of serious illness and injury c. Initiation of appropriate immediate treatment d. Prescribing and administering resuscitation and other appropriate drugs e. Provision of appropriate pain management f. Effective communication with children and their families g. Effective communication with other members of the multi-disciplinary team, including the on-duty consultant A clinician with at least Level 1 RCPCH (or equivalent) competences and experience should be immediately available. Doctors in training should normally be Specialist Trainee 4 (ST4) or above. Larger hospitals with several wards or departments caring for children will require more than one clinician with these competences on site 24/7.	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-206	**Competence Framework and Training Plan – Staff Providing Bedside Care** A competence framework and training plan should ensure that all staff providing bedside care have or are working towards, and maintain, competences appropriate for their role in the service including: a. Paediatric resuscitation: All staff should have basic paediatric resuscitation and life support competences and the service should have sufficient staff with advanced paediatric resuscitation and life support competences to achieve at least the minimum staffing levels (QS ED-208) and expected input to the paediatric resuscitation team (QS HW-204) b. Care and rehabilitation of children with trauma (if applicable) c. Care of children needing surgery (if applicable) d. Use of equipment as expected for their role e. Care of children with acute mental health problems	Y	All Band 6 nurses had completed EPALS training and all Band 5 nurses were trained to PILS level.	Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-207	**Staffing Levels: Bedside Care** Nursing and non-registered health care staffing levels should be appropriate for the number, dependency and case-mix of children normally cared for by the service and the lay-out of the unit. An escalation C12policy should show how staffing levels will respond to fluctuations in the number and dependency of patients. If staffing levels are achieved through flexible use of staff (rather than rostering), achievement of expected staffing levels should have been audited. Before starting work in the service, local induction and a review of competence for their expected role should be completed for all agency, bank and locum staff. The following minimum nurse staffing levels should be achieved: a. At least one nurse with up to date advanced paediatric resuscitation and life support competences on each shift b. At least one registered children's nurses on duty at all times in each area	Y	Two registered children's nurses were always on duty including a Band 6 with advanced resuscitation skills.	Y	Two registered children's nurses were always on duty including a Band 6 with advanced resuscitation skills. At Solihull a Paediatric Emergency Nurse Practitioner was always on duty.

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-209	**Other Staffing** The following staff should be available: a. Appropriately qualified staff to provide support for play, mental stimulation and distraction during procedures (7/7) b. On-call access to pharmacy and physiotherapy services able to support the care of children (24/7) c. Access to dietetic service (at least 5/7) d. Access to a liaison health worker for children with mental health needs (7/7) e. Access to staff with competences in psychological support (at least 5/7)	N	Access to a liaison health worker for children with mental health needs (7/7) from the Birmingham service was not available. All other aspects of the QS were met.	N	Access to a liaison health worker for children with mental health needs (7/7) from the Birmingham service was not available. All other aspects of the QS were met.
ED-211	**ED Liaison Paediatrician** A nominated paediatric consultant should be responsible for liaison with the nominated Emergency Department consultant (QS ED-201).	Y		Y	
ED-212	**ED Sub-speciality Trained Consultant** Emergency Departments seeing 16,000 or more child attendances per year should have a consultant with sub-specialty training in paediatric emergency medicine.	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-301	**Imaging Services** 24 hour on site access to imaging services should be available including ultrasound and CT scanning, with reporting available within one hour. Arrangements for access to MRI should be in place. If staff with competences in reporting imaging of children are not available 24/7 then the Hospital should have arrangements for review of imaging by a paediatric radiologist.	Y		Y	
ED-401	**Resuscitation Equipment** An appropriately designed and equipped area, or adequate mobile equipment, for resuscitation and stabilisation of critically ill children of all ages should be available. Drugs and equipment should be checked in accordance with local policy.	N	See main report in relation to the sealing of resuscitation trolleys	Y	
ED-402	**Grab Bag'** Appropriate drugs and equipment for in-hospital and time-critical transfers should be immediately available and checked in accordance with local policy.	Y	Single grab bag for transfer to ward / HDU. Double is for transfer out of Trust	Y	Single grab bag for transfer to ward / HDU. Double is for transfer out of Trust
ED-501	**Initial Assessment** A protocol should be in use which ensures a brief clinical assessment within 15 minutes of arrival, including a pain score (where appropriate), and a system of prioritisation for full assessment if waiting times for full assessment exceed 15 minutes.	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-502	**Paediatric Early Warning System** A system to provide early warning of deterioration of children should be in use. The system should cover observation, monitoring and escalation of care.	Y	PEWS was based on the Birmingham Children's Hospital documentation with added prompts for escalation and sepsis	Y	PEWS was based on the Birmingham Children's Hospital documentation with added prompts for escalation and sepsis
ED-503	**Resuscitation and Stabilisation** Hospital-Wide protocols for resuscitation and stabilisation should be in use, including: a. Alerting the paediatric resuscitation team b. Arrangements for accessing support for difficult airway management c. Stabilisation and ongoing care d. Care of parents during the resuscitation of a child	Y		Y	
ED-504	**Paediatric Advice** Guidelines on accessing advice from the local paediatric service and local paediatric critical care service should be in use in units where children are not under the care of a paediatrician.	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-505	**Clinical Guidelines** The following clinical guidelines should be in use: a. Treatment of all major conditions, including: i. acute respiratory failure (including bronchiolitis and asthma) ii. sepsis (including septic shock and meningococcal infection) iii. management of diabetic ketoacidosis iv. seizures and status epilepticus v. trauma, including traumatic brain injury, spinal injury and rehabilitation of children following trauma (if applicable) vi. burns and scalds vii. cardiac arrhythmia viii. upper airway obstruction b. Management of acutely distressed children, including use of restraint c. Drug administration and medicines management d. Pain management e. Procedural sedation and analgesia f. Infection control and antibiotic prescribing g. Tissue viability, including extravasation	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-506	**PCC Transfer Guidelines** Guidelines on referral to a Specialist Paediatric Transport Service should be in use, covering at least: a. Accessing advice from a Specialist Paediatric Transport Service and providing full clinical information b. Ensuring decisions on whether a child needs to be transferred are taken by the appropriate local consultant together with the Specialist Paediatric Transport Service c. Local guidelines on the maintenance of paediatric critical care until the child's condition improves or the SPTP arrives. These guidelines should stipulate the location/s in which children may be maintained	Y		Y	
ED-507	**In-hospital Transfer Guidelines** Guidelines on transfer of seriously ill children within the hospital (for example, to or from imaging or theatre) should be in use. The guidelines should specify the escort arrangements and equipment required.	Y		Y	
ED-508	**Inter-hospital Transfer Guidelines** Guidelines on transfer of children between hospitals or between hospital sites should be in use covering at least: a. Types of patients transferred b. Composition and expected competences of the escort team c. Drugs and equipment required d. Restraint of children, equipment and staff during transfer e. Monitoring during transfer	Y	Trust Guidelines	Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-509	**Time-Critical Transfer Guidelines** Guidelines should be in place for situations where emergency transfer is time-critical and waiting for the SPTS to arrive may introduce unsafe delay, for example, severe head injury, intracranial bleeding, severe thoracic vascular trauma, burns and some intra-abdominal emergencies. The guidelines should include: a. Securing advice from the Specialist Paediatric Transport Service (QS ED-506) b. Escort team of at least two clinical staff with appropriate training and experience. The referring consultant and senior nurse on duty should judge the appropriateness of the escorts who would normally be senior clinicians with experience and / or training in a) care of the critically ill child, b) emergency transfer and c) advanced airway management c. Indemnity for escort team d. Availability of drugs and equipment, checked in accordance with local policy (QS ED-402) e. Arrangements for emergency transport with a local ambulance service and the air ambulance f. Arrangements for ensuring restraint of children, equipment and staff during transfer	Y		Y	

Ref	Standard	Met?	Good Hope Hospital Reviewer's comments	Met?	Birmingham Heartlands Hospital Reviewer's comments
ED-798	**Review and Learning** The service should have appropriate multi-disciplinary arrangements for review of, and implementing learning from, positive feedback, complaints, morbidity, mortality, transfers and clinical incidents and 'near misses'.	Y		Y	

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CHILDREN'S ASSESSMENT SERVICES

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-201	**Lead Consultant and Lead Nurse** A nominated lead consultant and lead nurse should be responsible for staffing, training, guidelines and protocols, governance and for liaison with other services. The lead nurse should be a senior children's nurse. The lead consultant and lead nurse should undertake regular clinical work within the service for which they are responsible.	Y		Y	
CA-202	**Consultant Staffing** a. A consultant who is able to attend the hospital within 30 minutes and who does not have responsibilities to other hospital sites should be available 24/7 b. All consultants should have up to date advanced paediatric resuscitation and life support competences and should undertake CPD of relevance to their work with critically ill and critically injured children	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-203	**'Middle Grade' Clinician** A 'middle grade' clinician with the following competences should be immediately available at all times: a. Advanced paediatric resuscitation and life support b. Assessment of the ill child and recognition of serious illness and injury c. Initiation of appropriate immediate treatment d. Prescribing and administering resuscitation and other appropriate drugs e. Provision of appropriate pain management f. Effective communication with children and their families g. Effective communication with other members of the multi-disciplinary team, including the on-duty consultant A clinician with at least Level 1 RCPCH (or equivalent) competences and experience should be immediately available. Doctors in training should normally be ST4 or above. Larger hospitals with several wards or departments caring for children will require more than one clinician with these competences on site 24/7.	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-206	**Competence Framework and Training Plan – Staff Providing Bedside Care** A competence framework and training plan should ensure that all staff providing bedside care have or are working towards, and maintain, competences appropriate for their role in the service including: a. Paediatric resuscitation: All staff should have basic paediatric resuscitation and life support competences and the service should have sufficient staff with advanced paediatric resuscitation and life support competences to achieve at least the minimum staffing levels (QS CA-208) and expected input to the paediatric resuscitation team (QS HW-204) b. Care and rehabilitation of children with trauma (if applicable) c. Care of children needing surgery (if applicable) d. Use of equipment as expected for their role e. Care of children with acute mental health problems	N	Not all staff had up to date resuscitation training. For both children's assessment units there were 5/23 registered nurses with advanced paediatric resuscitation and life support competences and seven nurses had completed paediatric immediate life support training. The competency framework did not include competences for care of children needing surgery or with acute mental health problems. A surgical pathway and a flow chart for mental health were in place.	N	Not all staff had up to date resuscitation training. For both children's assessment units there were 5/23 registered nurses advanced paediatric resuscitation and life support competences and seven nurses had completed paediatric immediate life support training. The competency framework did not include competences for care of children needing surgery or with acute mental health problems. A surgical pathway and a flow chart for mental health were in place

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-207	**Staffing Levels: Bedside Care** Nursing and non-registered health care staffing levels should be appropriate for the number, dependency and case-mix of children normally cared for by the service and the lay-out of the unit. An escalation policy should show how staffing levels will respond to fluctuations in the number and dependency of patients. If staffing levels are achieved through flexible use of staff (rather than rostering), achievement of expected staffing levels should have been audited. Before starting work in the service, local induction and a review of competence for their expected role should be completed for all agency, bank and locum staff. The following minimum nurse staffing levels should be achieved: a. At least one nurse with up to date advanced paediatric resuscitation and life support competences on each shift b. At least two registered children's nurses on duty at all times in each area	N	Not all staff had up to date resuscitation training (QS-CA 206), therefore the minimum staffing levels as defined by the QS could not be assured at weekends and overnight.	Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-209	**Other Staffing** The following staff should be available: a. Appropriately qualified staff to provide support for play, mental stimulation and distraction during procedures (7/7) b. On-call access to pharmacy and physiotherapy services able to support the care of children (24/7) c. Access to dietetic service (at least 5/7) d. Access to a liaison health worker for children with mental health needs (7/7) e. Access to staff with competences in psychological support (at least 5/7)	N	Access to a liaison health worker for children with mental health needs (7/7) from the Birmingham service was not available. All other aspects of the QS were met.	N	Access to a liaison health worker for children with mental health needs (7/7) from the Birmingham service was not available. All other aspects of the QS were met.
CA-301	**Imaging Services** 24 hour on site access to imaging services should be available including ultrasound and CT scanning, with reporting available within one hour. Arrangements for access to MRI should be in place. If staff with competences in reporting imaging of children are not available 24/7 then the Hospital should have arrangements for review of imaging by a paediatric radiologist.	Y		Y	
CA-401	**Resuscitation Equipment** An appropriately designed and equipped area, or adequate mobile equipment, for resuscitation and stabilisation of critically ill children of all ages should be available. Drugs and equipment should be checked in accordance with local policy.	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-402	**'Grab Bag'** Appropriate drugs and equipment for in-hospital and time-critical transfers should be immediately available and checked in accordance with local policy.	Y	In HDU area BHH. At induction all junior staff are made aware of its location. In GHH in the resuscitation room.	Y	In HDU area BHH. At induction all junior staff are made aware of its location. In GHH in the resuscitation room.
CA-406	**'Point of Care' Testing** 'Point of care' testing for blood gases, glucose, electrolytes and lactate should be easily available.	Y		Y	
CA-501	**Initial Assessment** A protocol should be in use which ensures a brief clinical assessment within 15 minutes of arrival, including a pain score (where appropriate), and a system of prioritisation for full assessment if waiting times for full assessment exceed 15 minutes.	N	Only 87% of children were assessed and observations taken within 15 minutes of arrival.	N	Only 87% of children were assessed and observations taken within 15 minutes of arrival.
CA-502	**Paediatric Early Warning System** A system to provide early warning of deterioration of children should be in use. The system should cover observation, monitoring and escalation of care.	Y	PEWS was based on the Birmingham Children's Hospital documentation with added prompts for escalation and sepsis.	Y	PEWS was based on the Birmingham Children's Hospital documentation with added prompts for escalation and sepsis.
CA-503	**Resuscitation and Stabilisation** Hospital-Wide protocols for resuscitation and stabilisation should be in use, including: a. Alerting the paediatric resuscitation team b. Arrangements for accessing support for difficult airway management c. Stabilisation and ongoing care d. Care of parents during the resuscitation of a child	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-504	**Paediatric Advice** Guidelines on accessing advice from the local paediatric service and local paediatric critical care service should be in use in units where children are not under the care of a paediatrician.	N/A		N/A	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-505	**Clinical Guidelines** The following clinical guidelines should be in use: **All:** a. Treatment of all major conditions, including: i. acute respiratory failure (including bronchiolitis and asthma) ii. sepsis (including septic shock and meningococcal infection) iii. management of diabetic ketoacidosis iv. seizures and status epilepticus v. trauma, including traumatic brain injury, spinal injury and rehabilitation of children following trauma (if applicable) vi. burns and scalds vii. cardiac arrhythmia viii. upper airway obstruction b. Management of acutely distressed children, including use of restraint c. Drug administration and medicines management d. Pain management e. Procedural sedation and analgesia f. Infection control and antibiotic prescribing g. Tissue viability, including extravasation h. Nasal high flow therapy (if used) i. Management of children undergoing surgery (if applicable)	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-506	**PCC Transfer Guidelines** Guidelines on referral to a Specialist Paediatric Transport Service should be in use, covering at least: a. Accessing advice from a Specialist Paediatric Transport Service and providing full clinical information b. Ensuring decisions on whether a child needs to be transferred are taken by the appropriate local consultant together with the Specialist Paediatric Transport Service c. Local guidelines on the maintenance of paediatric critical care until the child's condition improves or the SPTP arrives. These guidelines should stipulate the location/s in which children may be maintained	Y		Y	
CA-507	**In-hospital Transfer Guidelines** Guidelines on transfer of seriously ill children within the hospital (for example, to or from imaging or theatre) should be in use. The guidelines should specify the escort arrangements and equipment required.	Y		Y	
CA-508	**Inter-hospital Transfer Guidelines** Guidelines on transfer of children between hospitals or between hospital sites should be in use covering at least: a. Types of patients transferred b. Composition and expected competences of the escort team c. Drugs and equipment required d. Restraint of children, equipment and staff during transfer e. Monitoring during transfer	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-509	**Time-Critical Transfer Guidelines** Guidelines should be in place for situations where emergency transfer is time-critical and waiting for the SPTS to arrive may introduce unsafe delay, for example, severe head injury, intracranial bleeding, severe thoracic vascular trauma, burns and some intra-abdominal emergencies. The guidelines should include: a. Securing advice from the Specialist Paediatric Transport Service (QS CA-506) b. Escort team of at least two clinical staff with appropriate training and experience. The referring consultant and senior nurse on duty should judge the appropriateness of the escorts who would normally be senior clinicians with experience and / or training in a) care of the critically ill child, b) emergency transfer and c) advanced airway management c. Indemnity for escort team d. Availability of drugs and equipment, checked in accordance with local policy (QS CA-402) e. Arrangements for emergency transport with a local ambulance service and the air ambulance f. Arrangements for ensuring restraint of children, equipment and staff during transfer	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-601	**Operational Policy** The service should have an operational policy covering at least: a. Individualised management plans are accessible for children who have priority access to the service (where applicable) b. Informing the child's GP of their attendance / admission c. Level of staff authorised to discharge children d. Arrangements for consultant presence during 'times of peak activity' (7/7) e. Servicing and maintaining equipment, including 24 hour call out where appropriate f. Arrangements for a consultant-led rapid access service which can see children within 24 hours of referral g. Arrangements for admission within four hours of the decision to admit h. Types of patient admitted i. Review by a senior clinician within four hours of admission j. Review by a consultant within 14 hours of admission and at least two consultant-led clinical handovers every 24 hours k. Handover of patients at each change of responsible consultant, non-consultant medical staff, nursing staff and other staff l. Discussion with a senior clinician prior to discharge	Y		Y	

Ref	Standard	Met?	CAU/IP GHH Reviewer's comments	Met?	PAU BHH Reviewer's comments
CA-703	**Audit and Quality Improvement** The service should have a rolling programme of audit, including at least: a. Audit of implementation of evidence based guidelines (QS CA-500s) b. Participation in agreed national and network-wide audits c. Use of the 'Urgent and Emergency Care Clinical Audit Toolkit' to review individual clinical consultations	Y		Y	
CA-704	**Key Performance Indicators** Key performance indicators should be reviewed regularly with Hospital (or equivalent) management and with commissioners.	Y		Y	
CA-798	**Review and Learning** The service should have appropriate multi-disciplinary arrangements for review of, and implementing learning from, positive feedback, complaints, morbidity, mortality, transfers and clinical incidents and 'near misses'.	Y		Y	

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IN-PATIENTS

Ref	Standard	Met?	Reviewer's comments
IP-201	**Lead Consultant and Lead Nurse** A nominated lead consultant and lead nurse should be responsible for staffing, training, guidelines and protocols, governance and for liaison with other services. The lead nurse should be a senior children's nurse. The lead consultant and lead nurse should undertake regular clinical work within the service for which they are responsible.	Y	
IP-202	**Consultant Staffing** a. A consultant who is able to attend the hospital within 30 minutes and who does not have responsibilities to other hospital sites should be available 24/7 b. All consultants should have up to date advanced paediatric resuscitation and life support competences and should undertake CPD of relevance to their work with critically ill and critically injured children	Y	
IP-203	**'Middle Grade' Clinician** A 'middle grade' clinician with the following competences should be immediately available at all times: a. Advanced paediatric resuscitation and life support b. Assessment of the ill child and recognition of serious illness and injury c. Initiation of appropriate immediate treatment d. Prescribing and administering resuscitation and other appropriate drugs e. Provision of appropriate pain management f. Effective communication with children and their families g. Effective communication with other members of the multi-disciplinary team, including the on-duty consultant A clinician with at least Level 1 RCPCH (or equivalent) competences and experience should be immediately available. Doctors in training should normally be ST4 or above. Larger hospitals with several wards or departments caring for children will require more than one clinician with these competences on site 24/7.	Y	
IP-205	**Medical Staff: Continuity of Care** Consultant rotas should be organised to give reasonable continuity of care.	Y	

Ref	Standard	Met?	Reviewer's comments
IP-206	**Competence Framework and Training Plan – Staff Providing Bedside Care** A competence framework and training plan should ensure that all staff providing bedside care have or are working towards, and maintain, competences appropriate for their role in the service including: a. Paediatric resuscitation: All staff should have basic paediatric resuscitation and life support competences and the service should have sufficient staff with advanced paediatric resuscitation and life support competences to achieve at least the minimum staffing levels (QS CA-208) and expected input to the paediatric resuscitation team (QS HW-204) b. Care and rehabilitation of children with trauma (if applicable) c. Care of children needing surgery (if applicable) d. Use of equipment as expected for their role e. Care of children with acute mental health problems	N	Only 52% of the Band 6 nurses (11/21) had advanced paediatric resuscitation and life support competences with the remaining staff with paediatric basic life support training. The competency framework did not include competences for care of children needing surgery or with acute mental health problems. A surgical pathway and a flow chart for mental health were in place.
IP-207	**Staffing Levels: Bedside Care** Nursing and non-registered health care staffing levels should be appropriate for the number, dependency and case-mix of children normally cared for by the service and the lay-out of the unit. An escalation policy should show how staffing levels will respond to fluctuations in the number and dependency of patients. If staffing levels are achieved through flexible use of staff (rather than rostering), achievement of expected staffing levels should have been audited. Before starting work in the service, local induction and a review of competence for their expected role should be completed for all agency, bank and locum staff. The following minimum nurse staffing levels should be achieved: a. At least one nurse with up to date advanced paediatric resuscitation and life support competences on each shift b. At least two registered children's nurses on duty at all times in each area	Y	

Ref	Standard	Met?	Reviewer's comments
IP-209	**Other Staffing** The following staff should be available: a. Appropriately qualified staff to provide support for play, mental stimulation and distraction during procedures (7/7) b. Access to a liaison health worker for children with mental health needs (7/7) c. Access to staff with competences in psychological support (at least 5/7) d. Pharmacist with paediatric competences (with time allocated at least 5/7 for work on the unit) e. Physiotherapist with paediatric competences (with time allocated at least 5/7 for work on the unit) f. On-call access to pharmacy and physiotherapy services able to support the care of children (24/7) g. Access to dietetic service (at least 5/7) h. Access to an educator for the training, education and continuing professional development of staff	Y	Access to a liaison health worker for children with mental health needs (7/7) from the Birmingham service was not available. All other aspects of the QS were met .
IP-301	**Imaging Services** 24 hour on site access to imaging services should be available including ultrasound and CT scanning, with reporting available within one hour. Arrangements for access to MRI should be in place. If staff with competences in reporting imaging of children are not available 24/7 then the Hospital should have arrangements for review of imaging by a paediatric radiologist.	Y	
IP-401	**Resuscitation Equipment** An appropriately designed and equipped area, or adequate mobile equipment, for resuscitation and stabilisation of critically ill children of all ages should be available. Drugs and equipment should be checked in accordance with local policy.	Y	
IP-402	**'Grab Bag'** Appropriate drugs and equipment for in-hospital and time-critical transfers should be immediately available and checked in accordance with local policy.	Y	
IP-501	**Initial Assessment** A protocol should be in use which ensures a brief clinical assessment within 15 minutes of arrival, including a pain score (where appropriate), and a system of prioritisation for full assessment if waiting times for full assessment exceed 15 minutes.	N/A	All patients were seen in the PAU prior to admission.

Ref	Standard	Met?	Reviewer's comments
IP-502	**Paediatric Early Warning System** A system to provide early warning of deterioration of children should be in use. The system should cover observation, monitoring and escalation of care.	Y	PEWS was based on the Birmingham Children's Hospital documentation with added prompts for escalation and sepsis.
IP-503	**Resuscitation and Stabilisation** Hospital-Wide protocols for resuscitation and stabilisation should be in use, including: a. Alerting the paediatric resuscitation team b. Arrangements for accessing support for difficult airway management c. Stabilisation and ongoing care d. Care of parents during the resuscitation of a child	Y	
IP-504	**Paediatric Advice** Guidelines on accessing advice from the local paediatric service and local paediatric critical care service should be in use in units where children are not under the care of a paediatrician.	N/A	
IP-505	**Clinical Guidelines** The following clinical guidelines should be in use: **All:** a. Treatment of all major conditions, including: i. acute respiratory failure (including bronchiolitis and asthma) ii. sepsis (including septic shock and meningococcal infection) iii. management of diabetic ketoacidosis iv. seizures and status epilepticus v. trauma, including traumatic brain injury, spinal injury and rehabilitation of children following trauma (if applicable) vi. burns and scalds vii. cardiac arrhythmia viii. upper airway obstruction b. Management of acutely distressed children, including use of restraint c. Drug administration and medicines management d. Pain management e. Procedural sedation and analgesia f. Infection control and antibiotic prescribing g. Tissue viability, including extravasation h. Nasal high flow therapy (if used) i. Management of children undergoing surgery (if applicable) j. Rehabilitation after critical illness (if applicable)	Y	

Ref	Standard	Met?	Reviewer's comments
IP-506	**PCC Transfer Guidelines** Guidelines on referral to a Specialist Paediatric Transport Service should be in use, covering at least: a. Accessing advice from a Specialist Paediatric Transport Service and providing full clinical information b. Ensuring decisions on whether a child needs to be transferred are taken by the appropriate local consultant together with the Specialist Paediatric Transport Service c. Local guidelines on the maintenance of paediatric critical care until the child's condition improves or the SPTP arrives. These guidelines should stipulate the location/s in which children may be maintained	Y	
IP-507	**In-hospital Transfer Guidelines** Guidelines on transfer of seriously ill children within the hospital (for example, to or from imaging or theatre) should be in use. The guidelines should specify the escort arrangements and equipment required.	Y	
IP-508	**Inter-hospital Transfer Guidelines** Guidelines on transfer of children between hospitals or between hospital sites should be in use covering at least: a. Types of patients transferred b. Composition and expected competences of the escort team c. Drugs and equipment required d. Restraint of children, equipment and staff during transfer e. Monitoring during transfer	Y	

Ref	Standard	Met?	Reviewer's comments
IP-509	**Time-Critical Transfer Guidelines** Guidelines should be in place for situations where emergency transfer is time-critical and waiting for the SPTS to arrive may introduce unsafe delay, for example, severe head injury, intracranial bleeding, severe thoracic vascular trauma, burns and some intra-abdominal emergencies. The guidelines should include: a. Securing advice from the Specialist Paediatric Transport Service (QS CA-506) b. Escort team of at least two clinical staff with appropriate training and experience. The referring consultant and senior nurse on duty should judge the appropriateness of the escorts who would normally be senior clinicians with experience and / or training in a) care of the critically ill child, b) emergency transfer and c) advanced airway management c. Indemnity for escort team d. Availability of drugs and equipment, checked in accordance with local policy (QS CA-402) e. Arrangements for emergency transport with a local ambulance service and the air ambulance f. Arrangements for ensuring restraint of children, equipment and staff during transfer	Y	

Ref	Standard	Met?	Reviewer's comments
IP-601	**Operational Policy** The service should have an operational policy covering at least: a. Individualised management plans are accessible for children who have priority access to the service (where applicable) b. Informing the child's GP of their attendance / admission c. Level of staff authorised to discharge children d. Arrangements for consultant presence during 'times of peak activity' (7/7) e. Servicing and maintaining equipment, including 24 hour call out where appropriate f. Arrangements for a consultant-led rapid access service which can see children within 24 hours of referral g. Arrangements for admission within four hours of the decision to admit h. Types of patient admitted i. Review by a senior clinician within four hours of admission j. Review by a consultant within 14 hours of admission and at least two consultant-led clinical handovers every 24 hours k. Handover of patients at each change of responsible consultant, non-consultant medical staff, nursing staff and other staff l. Discussion with a senior clinician prior to discharge	Y	
IP-704	**Audit and Quality Improvement** The service should have a rolling programme of audit, including at least: a. Audit of implementation of evidence based guidelines (QS CA-500s) b. Participation in agreed national and network-wide audits c. Use of the 'Urgent and Emergency Care Clinical Audit Toolkit' to review individual clinical consultations	Y	
IP-798	**Key Performance Indicators** Key performance indicators should be reviewed regularly with Hospital (or equivalent) management and with commissioners.	Y	

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LEVEL 2 PAEDIATRIC CRITICAL CARE UNIT

Ref	Standard	Met?	Reviewer's comments
L2-201	**Lead Consultant and Lead Nurse** A nominated lead consultant and lead nurse should be responsible for staffing, training, guidelines and protocols, governance and for liaison with other services. The lead nurse should be a senior children's nurse. The lead consultant and lead nurse should undertake regular clinical work within the service for which they are responsible.	Y	
L2-202	**Consultant Staffing** a. A consultant who has undertaken relevant training in paediatric critical care, who is able to attend the hospital within 30 minutes and who does not have responsibilities to other hospital sites should be available 24/7. If the consultant providing cover for the L2 PCC Unit is not a paediatrician, 24 hour cover by a consultant paediatrician who is able to attend the hospital within 30 minutes and who does not have responsibilities to other hospital sites is also required b. New appointments to consultant posts in L2 PCCUs should have completed the RCPCH 'Framework of Competences for a Special Study Model in Paediatric Critical Care' (or equivalent) and should have worked for at least six months in a Level 2 and for at least six months in a Level 3 PCCU (or equivalent) c. All consultants should have up to date advanced paediatric resuscitation and life support competences and should undertake CPD of relevance to their work with critically ill and critically injured children	Y	

Ref	Standard	Met?	Reviewer's comments
L2-203	**'Middle Grade' Clinician** A 'middle grade' clinician with the following competences should be immediately available at all times: a. Advanced paediatric resuscitation and life support b. Assessment of the ill child and recognition of serious illness and injury c. Initiation of appropriate immediate treatment d. Prescribing and administering resuscitation and other appropriate drugs e. Provision of appropriate pain management f. Effective communication with children and their families g. Effective communication with other members of the multi-disciplinary team, including the on-duty consultant At least one clinician should be immediately available who is either: a. A paediatric trainee with at least Level 2 RCPCH (or equivalent) competences. Doctors in training should normally be ST6 or above, OR b. A paediatric trainee (at any RCPCH level) who has completed at least 6 months working in a Level 3 Unit, OR c. An anaesthetic specialty trainee, OR d. An advanced nurse practitioner or Hospital / Specialty Doctor with equivalent competences, OR e. A consultant (QS L2-202) Larger hospitals with several wards or departments caring for children will require more than one clinician with these competences on site 24/7.	Y	
L2-205	**Medical Staff: Continuity of Care** Consultant rotas should be organised to give reasonable continuity of care.	Y	

Ref	Standard	Met?	Reviewer's comments
L2-206	**Competence Framework and Training Plan – Staff Providing Bedside Care** A competence framework and training plan should ensure that all staff providing bedside care have or are working towards, and maintain, competences appropriate for their role in the service including: a. Paediatric resuscitation: All staff should have basic paediatric resuscitation and life support competences and the service should have sufficient staff with advanced paediatric resuscitation and life support competences to achieve at least the minimum staffing levels (QS L2-208) and expected input to the paediatric resuscitation team (QS HW-204) b. Care and rehabilitation of children with trauma (if applicable) c. Care of children needing surgery (if applicable) d. Use of equipment as expected for their role e. Appropriate level paediatric critical care competences: 70% of nursing staff working on the PCC Units should have appropriate level competences in paediatric critical care f. Care of children with tracheostomies g. Care of children needing acute and chronic non-invasive ventilation, and tracheostomy ventilation	Y	

Ref	Standard	Met?	Reviewer's comments
L2-207	**Staffing Levels: Bedside Care** Nursing and non-registered health care staffing levels should be appropriate for the number, dependency and case-mix of children normally cared for by the service and the lay-out of the unit. An escalation policy should show how staffing levels will respond to fluctuations in the number and dependency of patients. If staffing levels are achieved through flexible use of staff (rather than rostering), achievement of expected staffing levels should have been audited. Before starting work in the service, local induction and a review of competence for their expected role should be completed for all agency, bank and locum staff. The following minimum nurse staffing levels should be achieved: a. At least one nurse with up to date advanced paediatric resuscitation and life support competences on each shift b. At least two registered children's nurses on duty at all times in each area c. At least one nurse per shift with appropriate level competences in paediatric critical care d. One nurse with appropriate level competences in paediatric critical care for every two children needing Level 1 or Level 2 critical care e. At least one nurse per shift with competences in care of children with tracheostomies and those requiring non-invasive or tracheostomy ventilation	Y	Patients with tracheostomies were not cared for on the unit.
L2-208	**New Starters** Nurses and non-registered health care staff without previous paediatric critical care experience should undertake: a. A structured, competency-based induction programme including a minimum of 75 hours of supervised practice in the PCC Unit (or in a higher level unit) b. A programme of theoretical and bedside education and training ensuring a defined level of competency is achieved within 12 months Nurses and non-registered health care staff with previous paediatric critical care experience should complete local induction and a review of competence for their expected role.	Y	

Ref	Standard	Met?	Reviewer's comments
L2-209	**Other Staffing** The following staff should be available: a. Appropriately qualified staff to provide support for play, mental stimulation and distraction during procedures (7/7) b. Pharmacist with paediatric competences (with time allocated at least 5/7 for work on the unit) c. Physiotherapist with paediatric competences (with time allocated at least 5/7 for work on the unit) d. Access to an educator for the training, education and continuing professional development of staff e. A discharge coordinator responsible for managing the discharge of children with complex care needs f. An educator for the training, education and continuing professional development of staff g. Pharmacist with competences in paediatric critical care (with time allocated at least 5/7 for work on the unit) h. Physiotherapist with competences in paediatric critical care (with time allocated at least 5/7 for work on the unit) i. On-call access to pharmacy and physiotherapy services able to support the care of children (24/7) j. Dietetic staff (with time allocated 5/7 for work on the unit) k. Staff with competences in psychological support with time allocated in their job plan for work with: i. families ii. staff	Y	
L2-301	**Imaging Services** 24 hour on site access to imaging services should be available including ultrasound and CT scanning, with reporting available within one hour. Arrangements for access to MRI should be in place. If staff with competences in reporting imaging of children are not available 24/7 then the Hospital should have arrangements for review of imaging by a paediatric radiologist.	Y	
L2-302	**Co-located Services** L2 PCC Units should be co-located with ENT services for the support of children with tracheostomies	N/A	ENT services were accessible in the Trust, but the unit did not admit children with tracheostomies.
L2-401	**Resuscitation Equipment** An appropriately designed and equipped area, or adequate mobile equipment, for resuscitation and stabilisation of critically ill children of all ages should be available. Drugs and equipment should be checked in accordance with local policy.	Y	

Ref	Standard	Met?	Reviewer's comments
L2-402	**'Grab Bag'** Appropriate drugs and equipment for in-hospital and time-critical transfers should be immediately available and checked in accordance with local policy.	Y	
L2-404	**Facilities** Paediatric critical care should be provided in a designated area, distinct from children needing general paediatric care.	N	Facilities were very cramped and there was very little space if camp beds were used at the bedside by parents.
L2-405	**Equipment** Equipment, including disposables, should be appropriate for the usual number and age of children and the critical care interventions provided. Equipment should be checked in accordance with local policy. As a minimum, each bed space should have the capacity for: a. ECG, respiration, pulse-oximetry and non-invasive blood pressure monitoring b. Transducing two pressure traces c. Temperature monitoring at two sitesThese monitors should be available in a modular unit capable of integration with monitors used in the Emergency Department, theatres and portable monitoring systems	Y	
L2-406	**'Point of Care' Testing** 'Point of care' testing for blood gases, glucose, electrolytes and lactate should be easily available.	Y	
L2-502	**Paediatric Early Warning System** A system to provide early warning of deterioration of children should be in use. The system should cover observation, monitoring and escalation of care.	Y	
L2-503	**Resuscitation and Stabilisation** Hospital-Wide protocols for resuscitation and stabilisation should be in use, including: a. Alerting the paediatric resuscitation team b. Arrangements for accessing support for difficult airway management c. Stabilisation and ongoing care d. Care of parents during the resuscitation of a child	Y	
L2-504	**Paediatric Advice** Guidelines on accessing advice from the local paediatric service and local paediatric critical care service should be in use in units where children are not under the care of a paediatrician.	N/A	

Ref	Standard	Met?	Reviewer's comments
L2-505	**Clinical Guidelines** The following clinical guidelines should be in use: a. Treatment of all major conditions, including: i. acute respiratory failure (including bronchiolitis and asthma) ii. sepsis (including septic shock and meningococcal infection) iii. management of diabetic ketoacidosis iv. seizures and status epilepticus v. trauma, including traumatic brain injury, spinal injury and rehabilitation of children following trauma (if applicable) vi. burns and scalds vii. cardiac arrhythmia viii. upper airway obstruction b. Management of acutely distressed children, including use of restraint c. Drug administration and medicines management d. Pain management e. Procedural sedation and analgesia f. Infection control and antibiotic prescribing g. Tissue viability, including extravasation h. Nasal high flow therapy (if used) i. Management of children undergoing surgery (if applicable) j. Rehabilitation after critical illness (if applicable) k. Acute non-invasive ventilation (CPAP and BiPAP) l. Tracheostomy care, including management of a tracheostomy emergency m. Care of children on long-term ventilation (tracheostomy and mask)	Y	
L2-506	**PCC Transfer Guidelines** Guidelines on referral to a Specialist Paediatric Transport Service should be in use, covering at least: a. Accessing advice from a Specialist Paediatric Transport Service and providing full clinical information b. Ensuring decisions on whether a child needs to be transferred are taken by the appropriate local consultant together with the Specialist Paediatric Transport Service c. Local guidelines on the maintenance of paediatric critical care until the child's condition improves or the SPTP arrives. These guidelines should stipulate the location/s in which children may be maintained	Y	

Ref	Standard	Met?	Reviewer's comments
L2-507	**In-hospital Transfer Guidelines** Guidelines on transfer of seriously ill children within the hospital (for example, to or from imaging or theatre) should be in use. The guidelines should specify the escort arrangements and equipment required.	Y	
L2-508	**Inter-hospital Transfer Guidelines** Guidelines on transfer of children between hospitals or between hospital sites should be in use covering at least: a. Types of patients transferred b. Composition and expected competences of the escort team c. Drugs and equipment required d. Restraint of children, equipment and staff during transfer e. Monitoring during transfer	Y	
L2-509	**Time-Critical Transfer Guidelines** Guidelines should be in place for situations where emergency transfer is time-critical and waiting for the SPTS to arrive may introduce unsafe delay, for example, severe head injury, intracranial bleeding, severe thoracic vascular trauma, burns and some intra-abdominal emergencies. The guidelines should include: a. Securing advice from the Specialist Paediatric Transport Service (QS L2-506) b. Escort team of at least two clinical staff with appropriate training and experience. The referring consultant and senior nurse on duty should judge the appropriateness of the escorts who would normally be senior clinicians with experience and / or training in a) care of the critically ill child, b) emergency transfer and c) advanced airway management c. Indemnity for escort team d. Availability of drugs and equipment, checked in accordance with local policy (QS L2-402) e. Arrangements for emergency transport with a local ambulance service and the air ambulance f. Arrangements for ensuring restraint of children, equipment and staff during transfer	Y	

Ref	Standard	Met?	Reviewer's comments
L2-601	**Operational Policy** The service should have an operational policy covering at least: a. Individualised management plans are accessible for children who have priority access to the service (where applicable) b. Informing the child's GP of their attendance / admission c. Level of staff authorised to discharge children d. Arrangements for consultant presence during 'times of peak activity' (7/7) e. Servicing and maintaining equipment, including 24 hour call out where appropriate f. Arrangements for admission within four hours of the decision to admit g. Types of patient admitted h. Review by a senior clinician within four hours of admission i. Discussion with a consultant within four hours of admission j. Review by a consultant within 14 hours of admission and at least two consultant-led clinical handovers every 24 hours k. Handover of patients at each change of responsible consultant, non-consultant medical staff, nursing staff and other staff l. Discussion with a senior clinician prior to discharge m. Arrangements for discharge within four hours of the decision to discharge n. Arrangements for critical care 'outreach' to other wards within the hospital o. Discharge of children with tracheostomies: i. Suitability for discharge ii. Staffing and monitoring facilities that should be in place prior to discharge iii. Process for planning and agreement of discharge p. Discharge of children on long-term ventilation q. Agreed contribution to the network-wide training and CPD programme (QS N-206)	Y	

Ref	Standard	Met?	Reviewer's comments
L2-702	**Data Collection** The service should collect and submit: a. Paediatric Intensive Care Audit Network (PICANet) data for submission to PICANet as soon as possible and no later than three months after discharge from the PCC Unit b. Paediatric Critical Care Minimum Data Set for submission to PICANet and SUS c. 'Quality Dashboard' data as recommended by the PCC CRG	Y	'c' was not applicable
L2-704	**Key Performance Indicators** Key performance indicators should be reviewed regularly with Hospital (or equivalent) management and with commissioners, including 'Quality Dashboard' data as recommended by the PCC CRG.	Y	
L2-798	**Review and Learning** The service should have appropriate multi-disciplinary arrangements for: a. Review of, and implementing learning from, positive feedback, complaints, morbidity, mortality, transfers and clinical incidents and 'near misses' b. Review and dissemination of published scientific evidence relating to paediatric critical care	Y	

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