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 of Derby and Burton NHS Foundation Trust

Visit Date: 12th September 2018 Report Date: November 2018

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INTRODUCTION

This short report presents the findings of the review of Critically Ill and Critically Injured Children that took place on 12th 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 and review the pathway for critically ill children attending the Emergency Department and children's assessment units through to inpatient and level 2 high dependency unit areas. 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 paediatric high dependency 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 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 of Derby and Burton 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 of Derby and Burton NHS Foundation Trust
- NHS East Staffordshire Clinical Commissioning Group
- NHS Southern Derbyshire 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 East Staffordshire 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 WMPCCN would like to thank the staff and service users and carers of Queens Hospital, University Hospitals of Derby and Burton 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

Reviewers noted good working relationships between staff working in the Emergency Department (ED) and in, paediatric and anaesthetic services. All staff were clearly committed to working together in order to provide good care for children and young people.

A clear transfer policy was in place to transfer children for high dependency care; staff across all areas would contact the Specialist Paediatric Transport Service for advice and support.

Concerns

1. **Resuscitation Training**

   Not all staff caring for children had appropriate competences in advanced paediatric resuscitation and life support and basic paediatric life support: -

   a. Staff in the ED did not have the expected level of training. Only 83% of ED consultants had up to date advanced resuscitation and life support competences. One ED consultant did not have up to date advanced resuscitation and life support competences but was booked to attend a course.

   b. Only 65% Band 5 and 77% Band 6 & 7 nurses working in the ED had up to date paediatric immediate life support training, but reviewers were told that there were sufficient numbers of staff on duty with appropriate competence, and all staff who did not have up to date paediatric resuscitation training had been booked to attend a course.

   c. Only 69% of anaesthetic middle grade staff had paediatric immediate life support competences and it was not clear if they had advanced paediatric airway management skills. Consultant anaesthetists did have up to date competences in advanced paediatric resuscitation and life support and advanced paediatric airway management, and in practice would attend all paediatric resuscitations.

   d. One paediatrician did not have up to date competences in advanced life support but was booked to attend a course.

   Reviewers were concerned that a child could arrive in the ED and need resuscitation and that a member of staff with appropriate competences to lead the resuscitation might not be available.

Further Consideration

1. Access to Child and Adolescent Mental Health Services (CAMHS) in the ED was not available daily. Staff who met the reviewers reported that access to CAMHS was available to children who were admitted to the ward, seven days a week.

Children's Emergency Department

General Comments and Achievements

Staff in the ED were keen to provide a good service for children. A paediatric competence framework had been developed for the adult registered nurses who cared for children and young people when a registered children's nurse was not available. The Department used the Manchester Triage system.

Concern

1. **Resuscitation Training**: See Trust-wide section of the report (under Concerns)
2. **Children's trained nurses**

The ED had only two trained children's nurses, although a third trained children's nurse had been appointed. Registered children's nurses were available from 10am to 10pm daily, with cover from adult emergency department nurses outside of these hours. This level of staffing was not sufficient to ensure that a registered trained children's nurse was on duty at all times.

Further Consideration

1. A protocol that ensured that a brief clinical assessment would be undertaken within 15 minutes of arrival was in place, but reviewers were told that an initial assessment was not always possible within this timescale.

Children's Assessment Unit (CAU) and In-patient Ward

General Comments and Achievements

Staff were enthusiastic and keen to provide a good service for children. All nursing, consultants and middle grade staff had appropriate training in resuscitation and life support. One cubicle was equipped to care for children who needed level one care. The Trust had established a rolling programme for attending HDU training, with two Band 6 nurses trained and funding via *Learning Beyond Registration* (LBR) to support a further two nurses per year.

Good Practice

1. The guidance covering the criteria for caring for a child with level one high dependency needs was very clear, and staff had a good understating of the level of care that could be provided by the Trust. Staff were clear on how and when to escalate beyond their own level of competence.
2. Ward staff were proactive and worked hard with the ED staff; there was a clear prioritisation to admit a child following triage if the ED staff considered that the child would require admission rather than staying in the ED environment.
3. The paediatric service section of the intranet was very well organised. Polices were easily accessible and defined by topic. Other relevant information (for example, regional guidance and information on regional networks) was also linked to the topic sections.

Immediate Risks: None

Concerns

1. **Competences of Ward Staff**.

   A structured process for assessing and monitoring competencies for new and existing staff was not yet in place. In particular a framework based on the Royal College of Paediatrics and Child Health *'High Dependency Care for Children, Time to Move on'* recommendations had not been adopted by the service. There was no evidence that staff had included these recommendations in the competence assessments as a marker for good practice.

Further Consideration

1. Guidelines for hi-flow therapy and continuous positive airway pressure (CPAP) ventilation were in the process of being agreed. Guidance covering the rehabilitation of children after critical illness was not yet in place.

Future Strategy

The service recognised its role in delivering good general paediatric care, with a dedicated cubicle for level one patients. The service recognised the current 'state of flux' following the merger of the two Trusts. The service was still keen to link with the WMPCCN, but recognised that, in the new organisation, it will also need to develop links with the East Midlands Paediatric Critical Care Network.

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Appendix 1 Membership of Visiting Team

Visiting Team		
Lynne Bowyer	General Manager for Children's Services	University Hospitals Birmingham NHS Foundation Trust
Ally Davies	Network Lead/BWC Transformation Manager	Birmingham Women's and Children's NHS Foundation Trust
Dr Sarah Griffiths	Consultant Paediatrician	University Hospitals Coventry & Warwickshire NHS Trust
Amrat Mahal	Head of Children and Young Peoples Nursing, Women's and Children's Division	Worcestershire Acute Hospitals NHS 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	8	80
Emergency Department	20	14	70
Children Assessment Unit	23	20	87
Integrated IP and L1 PCCU	30	24	80
Health Economy	**83**	**66**	**80**

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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	Y	
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.	Y	Standards for the Care of Children in Hospital group met bi-monthly

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	87% of consultant staff had paediatric immediate life support competences.
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	All critically ill children were escorted to other areas by a member of the paediatric team.
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.	Y	
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	N	Guidance on caring for parents during the resuscitation of the child was not yet in place. The resuscitation policy was very clear about alerting the team, stabilisation and ongoing care.

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	All but guidance for 'e' was in place
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?	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	
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	N	Only 83% of ED consultants had up to date advanced paediatric resuscitation and life support competences. One consultant did not have up to date competences but was booked to attend a course.
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	

Ref	Standard	Met?	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	N	Only 65% Band 5 and 77% Band 6 & 7 nurses had up to date paediatric immediate life support training, however reviewers were told that all staff had been booked to attend a course. A paediatric competence framework had been developed for the adult registered nurses who cared for children and young people when a registered children's nurse was not available.
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	N	The ED had only two trained children's nurses, although a third trained children's nurse had been appointed. A registered children's nurse was available in the department from 10 - 10 pm seven days a week. Outside of these hours cover was provided by registered adult nurses.

Ref	Standard	Met?	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 daily was not yet available to children and young people attending the ED.
ED-211	**ED Liaison Paediatrician** A nominated paediatric consultant should be responsible for liaison with the nominated Emergency Department consultant (QS ED-201).	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.	N/A	
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	
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.	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	

Ref	Standard	Met?	Reviewer's comments
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.	N	A policy was in place, but clinical assessment was not always undertaken within 15 minutes of arrival
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	
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	N	Guidance on caring for parents during the resuscitation of the child was not yet in place. The resuscitation policy was very clear about alerting the team, stabilisation and ongoing care.
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	
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	

Ref	Standard	Met?	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	
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	
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	

Ref	Standard	Met?	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	
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	

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CHILDREN'S ASSESSMENT SERVICE

Ref	Standard	Met?	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	
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	
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	100% of middle grade clinicians had advanced paediatric resuscitation and life support competences.

Ref	Standard	Met?	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	A comprehensive competence framework was not yet in place. Competences were assessed for use of equipment.
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	Y	All Band 6 nurses had advanced paediatric resuscitation and life support competences All band 5 nurses had paediatric immediate life support training. Two registered children's nurses were always on duty covering the CAU and inpatient areas.

Ref	Standard	Met?	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)	Y	
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	
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	
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	
CA-406	**'Point of Care' Testing** 'Point of care' testing for blood gases, glucose, electrolytes and lactate should be easily available.	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.	Y	
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	

Ref	Standard	Met?	Reviewer's comments
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	N	Guidance on caring for parents during the resuscitation of the child was not yet in place. The resuscitation policy was very clear about alerting the team, stabilisation and ongoing care.
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.	Y	Minor injuries units also had 24/7 access to paediatricians at Queens Hospital
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	

Ref	Standard	Met?	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	
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	
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	

Ref	Standard	Met?	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	

Ref	Standard	Met?	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	N	The operational policy did not cover 'b, e, and k'.
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	
CA-704	**Key Performance Indicators** Key performance indicators should be reviewed regularly with Hospital (or equivalent) management and with commissioners.	Y	

Ref	Standard	Met?	Reviewer's comments
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	

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INTEGRATED IN-PATIENTS & L1 PAEDIATRIC CRITICAL CARE

Ref	Standard	Met?	Reviewer's comments
L1-101	**Child-friendly Environment** Children should be cared for in a defined safe and secure child-friendly environment, with age-appropriate stimulation and distraction activities.	Y	
L1-102	**Parental Access and Involvement** Parents should: a. Have access to their child at all times except when this is not in the interest of the child and family or of the privacy and confidentiality of other children and their families b. Be informed of the child's condition, care plan and emergency transfer (if necessary) and this information should be updated regularly c. Have information, encouragement and support to enable them fully to participate in decisions about, and in the care of, their child	Y	
L1-201	**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	
L1-202	**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	

Ref	Standard	Met?	Reviewer's comments
L1-203	**'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	100% of middle grade clinicians had advanced paediatric resuscitation and life support competences.
L1-205	**Medical Staff: Continuity of Care** Consultant rotas should be organised to give reasonable continuity of care.	Y	

Ref	Standard	Met?	Reviewer's comments
L1-206	**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 L1-208) 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 f. Appropriate level paediatric critical care competences: 70% of nursing staff working on the PCC Units should have appropriate level competences in paediatric critical care.	N	A comprehensive competence framework was not yet in place. Competences were assessed for use of equipment. Staff with HDU competences were always on duty.
L1-207	**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 critical care	Y	All Band 6 nurses had advanced paediatric resuscitation and life support competences All band 5 nurses had paediatric immediate life support training. Two registered children's nurses were always on duty covering the CAU and inpatient areas.

Ref	Standard	Met?	Reviewer's comments
L1-208	**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.	N	A structured competency-based induction programme was not yet in place. New starters would complete the Trust induction programme.
L1-209	**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	
L1-301	**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	

Ref	Standard	Met?	Reviewer's comments
L1-401	**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	
L1-402	**'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	
L1-404	**Facilities** Paediatric critical care should be provided in a designated area, distinct from children needing general paediatric care.	Y	
L1-405	**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.	Y	One cubicle was equipped to care for children who needed level one care
L1-406	**'Point of Care' Testing** 'Point of care' testing for blood gases, glucose, electrolytes and lactate should be easily available.	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.	Y	
L1-502	**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	
L1-503	**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	N	Guidance on caring for parents during the resuscitation of the child was not yet in place. The resuscitation policy was very clear about alerting the team, stabilisation and ongoing care.

Ref	Standard	Met?	Reviewer's comments
L1-504	**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	
L1-505	**Clinical Guidelines** The following clinical guidelines should be in use: **All:** a. Treatment of all major conditions, including: i. i. acute respiratory failure (including bronchiolitis and asthma) ii. ii. sepsis (including septic shock and meningococcal infection) iii. iii. management of diabetic ketoacidosis iv. iv. seizures and status epilepticus v. v. trauma, including traumatic brain injury, spinal injury and rehabilitation of children following trauma (if applicable) vi. vi. burns and scalds vii. vii. cardiac arrhythmia viii.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)	N	Guidelines for hi- flow therapy and CPAP were in the process of being agreed. Reviewers were also told that the unit would care for some children on CPAP. Guidance was not yet in place covering rehabilitation after critical illness. All other guidelines were in place.
L1-506	**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
L1-507	**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	
L1-508	**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	
L1-509	**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 L1-506) 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 L1-402) 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
L1-601	**Operational Policy** All: 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	N	The operational policy did not cover 'b, e, and k'.
L1-702	**Data Collection** The service should collect: a. Paediatric Intensive Care Audit Network (PICANet) data b. Paediatric Critical Care Minimum Data Set for submission to Secondary Uses Service (SUS) c. 'Quality Dashboard' data as recommended by the PCC Clinical Reference Group (CRG)	Y	Data were collected but not yet submitted.
L1-703	**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 L1-500s) 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	'c' was not applicable.

Ref	Standard	Met?	Reviewer's comments
L1-704	**Key Performance Indicators** Key performance indicators should be reviewed regularly with Hospital (or equivalent) management and with commissioners.	Y	
L1-798	**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	

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