WM QRS West Midlands Quality Review Service

NHS

Care of Critically Ill & Critically Injured Children in the West Midlands

The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust – Version 2

Visit Date: 13th May 2015 Report Date: August 2015

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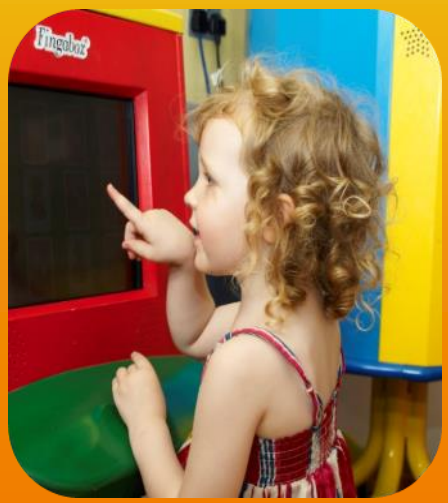

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INTRODUCTION

This report presents the findings of the review of the care of critically ill and critically injured children that took place on 13th May 2015. The purpose of the visit was to review compliance with the following West Midlands Quality Review Service (WMQRS) Quality Standards:

- Care of Critically Ill and Critically Injured Children in the West Midlands, Version 4.2, December 2013

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. Appendix 1 lists the visiting team which reviewed the services at The Robert Jones & Agnes Hunt Orthopaedic Hospital 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:

- The Robert Jones & Agnes Hunt Orthopaedic Hospital NHS Foundation Trust
- NHS Shropshire Clinical Commissioning Group
- NHS Telford and Wrekin 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 Shropshire Clinical Commissioning Group.

ABOUT WEST MIDLANDS QUALITY REVIEW SERVICE

WMQRS is a collaborative venture by 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 would like to thank the staff and service users and carers of The Robert Jones & Agnes Hunt Orthopaedic Hospital 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

General Comments and Achievements

Children and young people were admitted to the Robert Jones and Agnes Hunt (Orthopaedic) Hospital mainly for elective orthopaedic surgery. Admissions were usually to Alice Ward, although children and young people needing dental surgery were admitted to the Menzies day case unit. Children were carefully selected for admission to Robert Jones and Agnes Hunt (Orthopaedic) Hospital in order to minimise risk. Some children and young people spent time in the high dependency unit after surgery and before returning to the paediatric ward.

Alice Ward was welcoming and positive. Staff were highly committed to providing high quality care.

The Trust had a policy that Paediatric Intermediate Life Support (PILS) training should be updated annually (rather than two yearly), supplemented by six monthly skills training. Organisation of PILS training was very good with good monitoring of staff who were in need of updates to their resuscitation training.

Good Practice

1 Shropshire Young Health Champions had been actively involved in running the 'Fun Day', in developing feedback mechanisms and in interviews for the play specialist.

2 Resuscitation trolleys and drugs' cupboards included photographs of what was inside and lists of drugs and equipment were laminated. This meant that checking of the trolley was easier and quicker.

3 Orthopaedic surgeons were undertaking PILS training so that, if necessary, they could support the resuscitation of a child.

Immediate Risks

1 **Recognition of a deteriorating child, including availability of staff with RCPCH competences**[1]

Staff with appropriate competences in the recognition of the deteriorating child were not available on site at all times. In particular, the Trust did not have anyone on site with level 1 or level 2 Royal College of Paediatrics and Child Health (RCPCH) competences outside normal working hours and cover during working hours varied depending on whether a paediatrician was present. Also, appropriate systems for recognising a deteriorating child were not in place. The early warning system was not fit for purpose, in particular, it had no differentiation between scores of 4 to 9 and the escalation procedure did not involve someone with RCPCH competences at a sufficiently early stage. Reviewers also saw some evidence that the expected procedure was not being followed.

[1] **Immediate risk response:** Review and amend the PEWS documentation in line with Birmingham Children's Hospital NHS Foundation Trust documentation. Trust to ensure appropriate trained staff on duty at all times including all nursing staff and on call staff.
WMQRS Response: The response addresses the risk identified in recognition of a deteriorating child once the early warning system has been revised and implemented. Accessing advice from a clinician with level 1 and level 2 RCPCH competences may not be achieved and escalation to someone with these competences should be built into the early warning procedure.

2 **'Out of hours' availability of staff with advanced paediatric resuscitation and life support training[2]**

Outside normal working hours there was no-one on site with advanced paediatric resuscitation training who could, if required, lead a resuscitation. Band 6 and 7 nurses on the paediatric ward had Advanced Paediatric Life Support (APLS) training and one band 6 nurse usually covered night shifts following theatre lists with major procedures. A nurse with APLS training was not always on duty at night. Some other staff had Paediatric Intermediate Life Support (PILS) Training but not advanced resuscitation and life support training. The critical care outreach team was called for paediatric resuscitations but did not have advanced paediatric resuscitation and life support competences. The on-site medical staff at night did not appear on the rota for PILS training.

For six of the anaesthetists on the on call rota there was no evidence of whether they had up to date training and experience in treating small children.

Concerns

1 **No on-site anaesthetist after 5pm or at weekends**

An anaesthetist was not available on site after 5pm or at weekends. A consultant anaesthetist was on call and could attend within 30 minutes. This issue is clearly related to the recognition of a deteriorating child and the availability of staff with advanced resuscitation and life support competences (see above).

Further Consideration

1 The role taken by the consultant paediatricians in leading the development of services for children was not clear to reviewers. Systems for the recognition of a deteriorating child did not appear to have been influenced by a consultant paediatrician. Their involvement in assessment of admissions and regular 'rounds' of patients was not clear. The two paediatricians did not provide cross-cover and operating lists involving major procedures could take place with no paediatrician on site. For the paediatrician based at the Trust, it was not clear how skills in the care of acutely ill children were being maintained.

2 Children were admitted to the Trust's high dependency unit and reviewers suggested that an Operational Policy (or Standard Operating Procedure) covering the provision of high dependency care within the Trust may be helpful.

3 Reviewers suggested that '*in situ*' simulation training may be helpful, using a range of ward-based scenarios relevant to the Trust's patient population.

4 Systems were not in place for notifying the Trust of safeguarding concerns relating to children who may be admitted. Good informal links were in place, however, which enabled Trust staff to check whether children and young people from Wales were considered to be 'at risk'.

5 Information for children and young people may benefit from review. Much of the information seen by reviewers was in very small font and was not clear whether it was for children / young people or for adults. The Trust was considering developing more information for children and young people and a website video was also being developed. A child-friendly information pack about the paediatric ward was available.

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[2] **Immediate risk response:** The Resuscitation Service will run in-service training (EPLS) for the following staff groups: Paediatric Ward Staff, Medical staff on call, Anaesthetic staff holding the on call bleep, Critical Care Outreach. The first course to run in December 2015. Alice Ward off duty to ensure there is APLS cover until all staff are EPLS trained. Provide additional training and support for anaesthetic staff on call to become competent in intubation of young children.
WMQRS Response: These actions, if fully implemented, address the immediate risk identified.

6 Suction was available through a mobile machine. Reviewers suggested that a battery-operated (or battery back-up) suction machine may be useful so that suction was not delayed by the need to find a power socket.

7 Endotracheal tubes with cuff were not available on the anaesthetic resuscitation trolley in sizes 3.0 mmID, 3.5 mmID, 4.0 mmID and 4.5 mmID.

8 Fifteen paediatric nursing staff had spent two days at Alder Hey Hospital but arrangements for disseminating the learning gained were not clear. Reviewers suggested that it may be helpful formally to disseminate the learning gained from these attachments.

9 Some of the notes seen by reviewers were misfiled and some documentation was not clear about who had made an entry. The Trust was, however, planning to implement electronic patient records.

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APPENDIX 1 MEMBERSHIP OF VISITING TEAM

Visiting Team

Dr Penny Dison	Consultant Paediatrician	The Royal Wolverhampton NHS Trust
Paul Duflot	Ward Manager	Sandwell & West Birmingham Hospitals NHS Trust
Dr Bernhard Freitag	Consultant Anaesthetist	Walsall Healthcare NHS Trust
Dr Pavanasam Ramesh	Consultant in PICU and General Paediatrics	University Hospitals of North Midlands NHS Trust
Kirsti Soanes	Consultant Nurse	Birmingham Children's Hospital NHS Foundation Trust

Observer

Dr Julie Brent	Consultant Paediatrician - Oncology	The Royal Wolverhampton NHS Trust

WMQRS Team

Jane Eminson	Acting 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

Service	Number of Applicable QS	Number of QS Met	% met
Care of Critically Ill and Critically Injured Children			
Acute Trust-Wide	7	7	100
In-patient	49	36	73
Paediatric Anaesthesia	16	15	94
Total	**72**	**58**	**81**

Pathway and Service Letters: The Standards are in the following sections:

PC-	Care of Critically Ill Children Pathway	Acute Trust-wide
PM-	Care of Critically Ill Children Pathway	Core Standards for Each Area: Emergency Departments, Children's Assessment Services, In-patient and High Dependency Care Services for Children
PE-	Care of Critically Ill Children Pathway	Emergency Departments Caring for Children
PQ-	Care of Critically Ill Children Pathway	In-patient and High Dependency Care Services for Children
PG-	Care of Critically Ill Children Pathway	Anaesthesia and General Intensive Care for Children

Topic Sections: Each section covers the following topics:

-100	Information and Support for Children and Their Families
-200	Staffing
-300	Support Services
-400	Facilities and Equipment
-500	Guidelines and Protocols
-600	Service Organisation and Liaison with Other Services
-700	Governance

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ACUTE TRUST-WIDE

Ref	Quality Standard	Met? Y/N	Reviewer Comments
PC-201	**Board-level lead for children** A Board-level lead for children's services should be identified.	Y	
PC-202	**Lead consultants and lead nurses** The Board level lead for children's services should ensure that the following leads for the care of children have been identified: a. Nominated lead consultants and nurses for each of the areas where children may be critically ill (QS PM-201) b. Nominated lead consultant for emergency and elective surgery in children c. Nominated lead consultant for trauma in children d. Nominated lead anaesthetist (QS PG-201) and lead ICU consultant (QS PG-202) for children	Y	
PC-501	**Minor injuries units** If the Trust's services (QS PC-601) include a Minor Injuries Unit, Walk-in Centre or Urgent Care Centre, this Unit should have a protocol in use in the event of a critically ill child, or potentially critically ill child, presenting. This protocol should include transfer to an appropriate paediatric unit.	N/A	
PC-502	**Hospitals with emergency services for adults only – avoiding child attendances** Hospitals without on-site assessment or in-patient services for children should: a. Indicate clearly to the public the nature of the service provided for children b. Have agreed a protocol with the local ambulance service that children are not brought to the service by ambulance	N/A	
PC-503	**Hospitals with emergency services for adults only – paediatric advice** Hospitals without on-site assessment or in-patient services for children should have guidelines for accessing paediatric medical advice agreed with a local paediatric medical unit and regularly reviewed.	N/A	
PC-504	**Surgery on children** The Trust should have agreed the exclusion criteria for elective and UHCW CIC appendix D1 20140211emergency surgery on children (QS PG-503).	Y	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
PC-601	**Services provided** The Trust should be clear whether it provides the following services and the hospital site or sites on which each service is available: a. Minor Injury Unit, Walk-in Centre or Urgent Care Centre b. Emergency Department for: • Adults • Children c. Trauma service for children and, if so, its designation d. Children's assessment service e. In-patient children's service f. High Dependency Care service for children g. Elective in-patient surgery for children h. Day case surgery for children i. Emergency surgery for children j. Acute pain service for children k. Paediatric Intensive Care retrieval and transfer service l. Paediatric Intensive Care service	Y	
PC-602	**Children's assessment service location** If the Trust provides a children's assessment service, this should be sited alongside either an Emergency Department or an in-patient children's service.	N/A	
PC-603	**Hospitals accepting children with trauma** Hospitals accepting children with trauma should also provide, on the same hospital site: a. High Dependency Care service for children b. Paediatric Intensive Care service or a general intensive care unit which admits children needing: • A short period of post-anaesthetic care • Maintenance prior to transfer to PICU (QS PM-506)	N/A	
PC-604	**Trust-wide group** Trusts 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 PC-202) and the Resuscitation Officer with lead responsibility for children. The accountability of the group should include the Trust Director with responsibility for children's services (QS PC-201). The relationship of the group to the Trust's mechanisms for safeguarding children (QS PM-297) and clinical governance issues relating to children should be clear.	Y	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
PC-703	**Approving guidelines and policies** The mechanism for approval of policies, procedures, guidelines and protocols relating to the care of critically ill and critically injured children should have been agreed by the Trust-wide group (QS PC-604) or a sub-group thereof.	Y	
PC-704	**Child death** The death of a child while in hospital should undergo formal review. This review should be multi-professional and all reasonable steps should be taken to involve specialties who contributed to the child's care. Primary and community services should be involved where appropriate. All deaths of children in hospital should be reported to the local Child Death Overview Panel.	Y	The policy framework was scheduled for review in March 2015.

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IN-PATIENT CARE

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-101	**General support for families** The following support services should be available: a. Interfaith and spiritual support b. Social workers c. Interpreters d. Bereavement support e. Patient Advice and Advocacy Services f. Information for parents about these services should also be available.	Y	The interpreting policy was due for review in 2011. No problems with access to interpreting services were reported. Acceess to social workers for safeguarding issues was in place. For other issues Trust staff liaised with social workers in the child's local area.
PM-102	**Child-friendly environment** There should be a child-friendly environment, including toys and books / magazines for children of all ages. There should be visual and, ideally, sound separation from adult patients.	Y	
PM-103	**Parental access** There should be parental access to the child at all times except when this is not in the interest of the child or the privacy and confidentiality of other children and their families.	Y	
PM-104	**Information for children** Children should be offered appropriate information to enable them to share in decisions about their care.	Y	See main report.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-105	**Information for parents** Parents should have information, encouragement and support to enable them fully to participate in decisions about, and in the care of, their child.	Y	See main report.
PM-106	**Keeping parents informed** Parents should be informed of the child's condition, care plan and retrieval (if necessary) and this information should be updated regularly.	Y	
PM-108	**Financial support** A policy on financial support for families of critically ill children should be developed and communicated to parents.	Y	Financial support was available in practice although there was no written policy.
PQ-108	**Parent information for in-patients** Parents should be given written information about the unit, including visiting arrangements, ward routine and location of facilities within the hospital that the parents may want to use.	Y	See main report.
PQ-109	**Parent facilities for in-patients** Facilities should be available for the parent of each child, including: a. Somewhere to sit away from the ward b. A quiet room for relatives c. A kitchen, toilet and washing area d. A changing area for other young children	Y	
PQ-110	**Overnight facilities** Overnight facilities should be available for the parent or carer of each child, including a foldaway bed or pull-out chair-bed next to the child.	Y	
PQ-111	**Overnight facilities – high dependency care services** Units which provide high dependency care should have appropriate facilities for parents and carers to stay overnight, including accommodation on site but away from the ward.	Y	
PM-199	**Involving children and families** The service should have mechanisms for: a. Receiving feedback from children and families about the treatment and care they receive b. Involving children and families in decisions about the organisation of the service	Y	A Parents and Children Focus Group met twice a year, although there had not been a meeting since the 'Fun Day in the autumn of 2014, partly due to a Play Specialist vacancy. See main report in relation to Shropshire Health Champions.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-201	**Lead consultant and lead nurse** A nominated consultant and nominated senior children's trained nurse should be responsible for: a. Protocols covering the assessment and management of the critically ill child b. Ensuring training of relevant staff The lead consultant and lead nurse should undertake regular clinical work within the area for which they are responsible.	Y	
PM-202	**Consultant paediatrician 24 hour cover** 24 hour cover by a consultant paediatrician who is able to attend within 30 minutes and does not have responsibilities to other hospital sites should be available.	N	Consultant paediatrician cover was not available 24/7. A consultant paediatrician was due to be on site Mondays to Fridays (except when on annual leave or with commitments elsewhere). A second paediatrician from Birmingham Children's Hospital attended two days a week. Cover for absences of the consultants was not available and cross-cover arrangements were not in place. See also main report.
PM-203	**Consultant anaesthetist 24 hour cover** 24 hour cover by a consultant anaesthetist who is able to attend within 30 minutes and does not have responsibilities to other hospital sites should be available.	Y	
PM-204	**24 hour on site clinician competent in resuscitation and advanced airway management** 24 hour cover by a clinician with competences in resuscitation, stabilisation and intubation of children should be immediately available on each hospital site.	N	An anaesthetist was on call outside normal working hours (Monday to Friday, 9am to 5pm) but was not available on site. See also main report.
PM-205	**Medical staff resuscitation training** All relevant medical staff and clinical staff (QS PM-201) have appropriate, up to date paediatric resuscitation training.	N	See main report.
PM-206	**Clinician with advanced resuscitation training on duty** A clinician with up to date advanced paediatric resuscitation training should be on duty at all times.	N	See main report.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-207	**Clinician with level 1 competences on duty** There should be 24 hour resident cover by a clinician with competences and experience in: a. Assessment of the ill child and recognition of serious illness and injury b. Initiation of appropriate immediate treatment c. Prescribing and administering resuscitation and other appropriate drugs d. Provision of appropriate pain management e. Effective communication with children and their families The level of competence expected is equivalent to paediatric medicine (RCPCH) level 1 competences in these areas.	N	See main report.
PM-208	**Nursing and HCA staff competences** Nursing and health care assistant staffing and competency 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. A competence framework and training plan should ensure that all nursing and health care assistant staff have, or are working towards, competences appropriate for their role in the service including in: a. Paediatric resuscitation b. High dependency care c. Care and rehabilitation of children with trauma	Y	Fifteen of the nursing staff had spent two days at Alder Hey or Birmingham Children's Hospital with the aim of ensuring their competences in the care of acutely ill children were kept up to date. It was not clear how the learning gained was cascaded to other staff.
PM-209	**Minimum nurse staffing** Emergency Departments and day surgery services for children should have at least one registered children's nurse on duty at all times in each area. Children's assessment services and in-patient services for children should have at least two registered children's nurses on duty at all times in each area.	Y	
PM-210	**Nurse with paediatric resuscitation training on duty** At least one nurse with up to date paediatric resuscitation training should be on duty at all times.	Y	The Trust policy was to undertake annual updates of Paediatric Intermediate Life Support (PILS) training. Nursing staff had not all achieved annual updates but had been updated within the previous two years.
PM-211	**Support for play** Appropriately qualified play specialists should be available 7 days a week.	N	Play specialist support was not available at weekends due to the small number of children on the ward at weekends.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PQ-216	**High dependency care: lead consultant and lead nurse** A nominated paediatric consultant and lead nurse should have responsibility for guidelines, policies and procedures (QS PQ-601) and staff competences relating to high dependency care. The consultant should undertake Continuing Professional Development of relevance to high dependency care. The lead nurse should be a senior children's trained nurse with competences and experience in providing high dependency care.	N	See main report.
PQ-217	**Clinician with level 2 competences on duty** A clinician trained to, or training at, the equivalent of paediatric medicine and neonatal medicine (RCPCH) level 2 competences or above should be available on site at all times.	N	See main report.
PQ-218	**High dependency care: nursing competences** Children needing high dependency care should be cared for by a trained children's nurse with paediatric resuscitation training and competences in providing high dependency care.	N	Children needing high dependency care were admitted to the Trust's high dependency unit. The Ward Manager on the intensive care unit had Paediatric Intermediate Life Support (PILS) training and training in providing high dependency care for adults. A paediatric nurse also cared for the child alongside adult critical care nurses. Invasive monitoring is possible but patients needing organ support were transferred out of the hospital.
PQ-219	**High dependency care: nurse staffing** Nurse staffing for children needing high dependency care should be 0.5:1 or 1:1 if nursed in a cubicle. If this is achieved through flexible use of staff (rather than rostering) then achievement of expected staffing levels should have been audited.	Y	Children admitted to the high dependency unit were nursed with a 2:1 nurses to patient ratio.
PQ-220	**Tracheostomy care** If children with tracheostomies are cared for on the ward, a healthcare professional with skills in tracheostomy care should be rostered on each shift.	N/A	Children with tracheostomies were not admitted.
PQ-221	**High dependency care: pharmacy and physiotherapy** Wards providing high dependency care should have pharmacy and physiotherapy staff with appropriate competences and job plan time allocated for their work with children needing high dependency care.	Y	

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-296	**Policy on staff acting outside their area of competence** A Trust policy on staff acting outside their area of competence because this is in the best interest of the child should be in use covering: a. Exceptional circumstances when this may occur b. Staff responsibilities c. Reporting of event as an untoward clinical incident d. Support for staff	Y	A brief policy was available but could be more explicit, for example about the need to report the incident and to provide support for staff involved.
PM-297	**Safeguarding training** All staff involved with the care of children should: a. Have training in safeguarding children appropriate to their role b. Be aware who to contact if they have concerns about safeguarding issues and c. Work in accordance with latest national guidance on safeguarding children	Y	Training records could be clearer about safeguarding training. It was not possible easily to distinguish between staff who needed level 2 and level 3 training. It was also not clear that all medical staff had undertaken appropriate safeguarding training.
PM-301	**Support services 24 hour cover** 24-hour access to pharmacy, biochemistry, pathology, imaging and physiotherapy services able to support the care of children, and weekday access to dietetic services, should be available. If staff with competences in reporting imaging of children are not available 24/7 then the Trust should have arrangements for review of imaging by a paediatric radiologist.	Y	
PQ-303	**Other specialties** Access to other appropriate specialties should be available, depending on the usual case mix of patients, for example, 24-hour ENT cover for tracheostomy care.	Y	Most patients were managed by orthopaedic surgeons.
PQ-304	**Intensive care support** 24-hour on-site access to a senior nurse with intensive care skills and training should be available.	N	Access to staff with high dependency skills was available 24/7.
PM-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	Quality Standards	Met? Y/N	Reviewer Comments
PQ-402	**High dependency care: facilities and equipment** An appropriately designed and equipped area for providing high dependency care for children of all ages should be available. Equipment available should be appropriate for the high dependency care and interventions provided (QS PQ-601). Drugs and equipment should be checked in accordance with local policy.	Y	
PM-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 exceed 30 minutes.	N/A	All admissions were elective.
PM-502	**Paediatric advice** Protocols for accessing advice from the local paediatric service and local paediatric intensive care service should be in use in units where children are not under the care of a paediatrician.	Y	The protocol stated that advice would be obtained from KIDS (Kids' Intensive Care and Decision Support) and from consultants at Royal Shrewsbury Hospital.
PM-503	**Clinical guidelines** Guidelines should be in use covering: a. Admission b. Treatment of all major conditions, including meningococcal infection, asthma, status epilepticus, diabetic ketoacidosis, upper airway obstruction and inhaled foreign body. c. Treatment of the consequences of trauma d. Procedural sedation and analgesia e. Discharge	Y	
PM-504	**Early warning protocol** A protocol designed to provide early warning of deterioration of children should be in use. The protocol should cover observation, monitoring and escalation of care.	Y	See main report. The ward was planning to introduce VitalPak with a paediatric module.
PM-505	**Resuscitation and stabilisation protocol** Protocols should be in use covering resuscitation and stabilisation, including: a. Alerting the paediatric resuscitation team b. Indications and arrangements for accessing ENT services when needed for airway emergencies c. In Emergency Departments with no on-site children's assessment or in-patient children's service, arrangements for ensuring paediatric medical and appropriate anaesthetic input to the care of the child	Y	A resuscitation and stabilisation policy was available but was not clear about drugs calculators. It also had insufficient emphasis on decision-support and was not clear about who would lead a paediatric resuscitation and, if required, transfer.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-506	**PICU transfer protocol** A protocol on transfer to a PICU should be in use, which should include: a. Accessing advice from a Retrieval Service or PIC consultant and providing full clinical information b. Ensuring decisions on whether a child needs to be transferred are taken by the appropriate local consultant with a PIC consultant c. Local guidelines on the maintenance of intensive care for a critically ill child until the child's condition improves or the retrieval team arrives which should stipulate the location/s in which children may be maintained d. Arrangements for the transfer of children requiring specialised intensive care not available in the lead PIC centre, including burns care and ECMO	Y	As QS PM-505.
PM-507	**In-hospital transfer protocol** A protocol on transfer of seriously ill children within the hospital (for example, to or from imaging or theatre) should be in use. The protocol should specify the escort arrangements and equipment required.	Y	
PM-508	**High dependency care transfer protocol** Hospitals which undertake transfers of children needing high dependency care should have a protocol agreed by the Retrieval Service for the local population which covers: 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 The protocol should cover primary transfers of children to a High Dependency Care Unit and 'back-transfers' from PICU.	N/A	The service did not regularly undertake transfers of children needing high dependency care.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PM-509	**Transfer contingency protocol** A protocol should be in place for situations where retrieval is clinically inappropriate or time-critical, for example, severe head injury, intracranial bleeding, severe thoracic vascular trauma, burns and some intra-abdominal emergencies, where retrieval may introduce unsafe delay. The protocol should include: a. Advice from the Retrieval Service or lead PIC centre (QS PM-506) b. Contact details of relevant specialists where additional advice may be required, for example, neurosurgeons c. Escort team of one nurse and one doctor with appropriate training and experience. The referring consultant and senior nurse on duty should judge the appropriateness of the medical escort who would normally be senior clinicians with experience and / or training in a) care of the critically ill child or b) emergency transfer or c) airway management. d. Indemnity for escort team e. Availability of drugs and equipment, checked in accordance with local policy f. Arrangements for emergency transport with a local ambulance service and the air ambulance g. Arrangements for ensuring restraint of children, equipment and staff during transfer	Y	
PM-510	**Organ donation policy** A Trust policy on organ donation should be in use which is specific about organ donation in children and includes transplant coordinator contact details.	N/A	
PM-511	**Bereavement policy** A Trust bereavement policy should be in use which specifically covers the death of a child and bereavement of parents, carers and siblings. This policy should specify arrangements for obtaining consent for post-mortems.	Y	
PQ-514	**High dependency care: clinical guidelines** Clinical guidelines should be in use covering the provision of high dependency care, including: a. Care of children with: i. Bronchiolitis ii. Status epilepticus iii. Diabetic ketoacidosis iv. Long-term ventilation b. High dependency interventions (QS PQ-601). c. Rehabilitation of children following trauma (if applicable)	N	Clinical guidelines covering the high dependency care of children were not seen by reviewers.

Ref	Quality Standards	Met? Y/N	Reviewer Comments
PQ-601	**High dependency care: operational policy** Wards providing high dependency care should have an operational policy covering: a. Type of children (age and diagnoses) for whom high dependency care will normally be provided b. Expected duration of high dependency care c. High dependency interventions provided, and duration of interventions, including whether the following are provided: i. Invasive monitoring ii. CPAP iii. Renal support d. Expected competences of healthcare staff providing high dependency interventions e. Arrangements for access to paediatric radiology advice f. Arrangements for liaison with lead PICU for advice and support	N	Reviewers considered that the high dependency unit should have an operational policy which covered the care of children as children were regularly admitted to the unit.
PQ-701	**High dependency care: data collection** The paediatric high dependency minimum data set should be collected and submitted to SUS.	N	Data on high dependency care for children were not collected.
PM-702	**Audit** The service should have a rolling programme of audit of compliance with clinical guidelines (QSs PM-503 to PM-509).	Y	
PM-703	**National audit programmes** The service should be submitting data to, and participating in, appropriate national and regional clinical audit programmes including, for services caring for children with trauma, TARN.	N/A	No national audit programmes were applicable to the service provided.
PM-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	
PM-799	**Document control** All policies, procedures, guidelines and protocols relating to the care of critically ill and critically injured children should comply with Trust document control procedures.	Y	

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PAEDIATRIC ANAESTHESIA

Ref	Quality Standard	Met? Y/N	Reviewer Comments
[PC-601]	**Surgery and anaesthetic services** The Trust should be clear whether it provides the following services for children and the hospital site or sites on which each service is available: a. Elective in-patient surgery for children b. Day case surgery for children c. Emergency surgery for children d. Acute pain service for children	Y	Children were carefully selected for admission to the hospital.
PG-102	**Information on anaesthesia** Age-appropriate information about anaesthesia should be available for children and families.	Y	
PG-199	**Involving children and families** The service should have mechanisms for: a. Receiving feedback from children and families about the treatment and care they receive b. Involving children and families in decisions about the organisation of the service	Y	
PG-201	**Lead anaesthetist** A nominated consultant anaesthetist should be responsible for policies and procedures relating to emergency and elective anaesthesia of children. This consultant should be involved in the delivery of anaesthetic services to children.	Y	
PG-202	**GICU lead consultant** A nominated lead intensive care consultant should be responsible for Intensive Care Unit policies and procedures relating to children.	N/A	
PG-203	**Lead nurse** A nominated lead nurse should be responsible for ensuring policies, procedures and nurse training relating to children admitted to the general intensive care unit are in place.	N/A	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
PG-204	**Medical staff caring for children** All anaesthetists or intensivists with emergency and / or elective paediatric responsibility should have up to date knowledge of advanced paediatric life support / resuscitation and stabilisation of critically ill children**.**	N	Twelve consultants were on the 'on call' rota. Of these, four consultants regularly did paediatric lists. Some of the eight remaining consultants had Paediatric Intermediate Life Support (PILS) training and some participated in lists of other consultants. They were not trained, however, to lead a resuscitation.
PG-205	**Elective anaesthesia** All anaesthetists involved in the elective surgical management of children should be familiar with current practice and the techniques necessary to provide safe care for children, including acute pain management.	Y	
PG-206	**Operating department assistance** Operating department assistance from personnel trained and familiar with paediatric work should be available for all emergency and elective children's surgery. For hospitals accepting children with trauma, this includes competences in the care of children with trauma.	Y	Operating department assistance had Paediatric Intermediate Life Support (PILS) training.
PG-207	**Recovery staff** At least one member of the recovery room staff who has training and experience in paediatric practice should be available for all elective children's lists.	Y	Recovery staff had Paediatric Intermediate Life Support (PILS) training.
PG-401	**Induction and recovery areas** Child-friendly paediatric induction and recovery areas should be available within the theatre environment.	Y	
PG-402	**Day surgery** Children needing elective surgery should be admitted to a day surgery unit or a children's ward area specifically identified for children's day surgery.	Y	All children undergoing elective day case surgery were admitted to Alice Ward with the exception of the community dental list.
PG-403	**Drugs and equipment** Appropriate drugs and equipment should be available in each area in which paediatric anaesthesia is delivered. Drugs and equipment should be checked in accordance with local policy.	Y	See main report.
PG-404	**GICU paediatric area** The general intensive care unit should have an appropriately designed and equipped area for providing intensive care for children. Drugs and equipment appropriate to the age and condition of children who may be admitted (QS PM-506) should be available and checked in accordance with local policy.	N/A	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
PG-501	**Role of anaesthetic service in care of critically ill children** Protocols for resuscitation, stabilisation, accessing advice, transfer and maintenance of critically ill children (QSs PM-503 to PM-509) and the provision of high dependency care (QS PQ-514 and PQ-601) should be clear about the role of the anaesthetic service and (general) intensive care in each stage of the child's care.	Y	
PG-502	**GICU Care of children** If the maintenance guidelines in QS PM-506 include the use of a general intensive care unit, they should specify: a. The circumstances under which a child will be admitted to and stay on the general intensive care unit b. A children's nurse is available to support the care of the child and should review the child at least every 12 hours c. There should be discussion with a PICU about the child's condition prior to admission and regularly during their stay on the general intensive care unit d. A local paediatrician should agree to the child being moved to the intensive care unit and should be available for advice e. A senior member of the paediatric team should review the child at least every 12 hours during their stay on the general intensive care unit	N/A	
PG-503	**Surgery criteria** Protocols should be in use covering: a. Exclusion criteria for elective and emergency surgery on children b. Day case criteria c. Non-surgical procedures requiring anaesthesia	Y	
PG-504	**Clinical guidelines – anaesthesia** Clinical guidelines should be in use covering: a. Analgesia for children b. Pre-operative assessment c. Preparation of all children undergoing general anaesthesia	Y	
PG-601	**Liaison with theatre manager** There should be close liaison between the lead consultant/s for paediatric anaesthesia (QS PG-201) and the Theatre Manager with regard to the training and mentoring of support staff.	Y	

Ref	Quality Standard	Met? Y/N	Reviewer Comments
PG-602	**Children's lists** Wherever possible, elective surgery on children should be undertaken on dedicated operating lists for children. If dedicated lists are not feasible, children should be put at the start of lists with appropriately trained staff in the reception, anaesthetic room, theatre and recovery areas.	Y	
PG-701	**High dependency care: data collection (GICU)** The paediatric high dependency minimum data set should be collected and submitted to SUS.	N/A	

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