North West and North Wales
Paediatric Critical Care Network

North of England

Guidance for Paediatric Critical Care Surge and Escalation

(NW and North Wales Regions)

Prepared by the Cheshire & Mersey, Greater Manchester and Lancashire & South Cumbria Adult and North West and North Wales Paediatric Critical Care Networks on behalf of NHS England North (NW region), with acknowledgement to the NE of England Critical Care Network.

These Networks are accountable to NHS England (North), and through the Cheshire and Mersey, Lancashire and Greater Manchester Area Teams.

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Linked Plans:

- **NHS England Cheshire & Mersey, Greater Manchester , Lancashire & South Cumbria Area Team: *Incident Response Plans***
- **NHS England Cheshire & Mersey, Greater Manchester , Lancashire & South Cumbria Area Team: *Pandemic Influenza Operational Plans*, July 2014**

CONTENTS

1. SUMMARY

The principles of this guidance for management of surge and escalation for the North West (NW) Paediatric Critical Care (PCC) services are:

1.1. An Integrated model across the region.

1.2. Stepped increase to capacity in response to demand.

1.3. Preservation of the 'standard' clinical pathway for critically ill children for as long as possible.

1.4. Preservation of emergency, general and specialist services for as long as possible.

1.5. Equity of access and treatment across the NW covering the areas of: Cheshire and Mersey, Greater Manchester, Lancashire and South Cumbria, the Isle of Man and North Wales.

1.6. Management of NW PCC capacity as a single entity, recognising discrete conurbations and specialist centres but trying to keep the population as close to their home as far as possible.

1.7. At times of escalation it is recognised that there will be a requirement for an increase in the number of patients requiring inter-hospital transfer and the distance travelled to access critical care services. This will be dependent upon the nature of the escalation scenario as the NW units strive to maintain the standard of normal clinical pathways.

1.8. Stepped decrease in capacity and return to normal activity as soon as possible in response to demand.

1.9. AHCH/ RMCH will work closely with NHS statutory organisations and NHS Emergency Preparedness, Resilience and Response (EPRR) teams to optimise the prediction of a requirement for expansion of capacity.

1.10. Levels of escalation are summarised in table 1 below as:

Table 1: Escalation Levels

Level 1	Normal
Level 2	Concern
Level 3	Moderate
Level 4	Severe
Level 5	Critical
Level 6	Potential Service Failure

2. PURPOSE

The purpose of this guidance is to provide an effective operational response across the North West and South Cumbria health economy to unplanned increases in demand for paediatric critical care services, which are sufficient to require a coordinated approach.

3. APPLICATION

NHS England requires that Provider Trusts adopt specialist guidance that supports internal trust plans for surge capacity[1]; this guidance specifically relates to the demands placed upon, and the management of, PCC services.

4. SCOPE

The Paediatric Critical Care ODN referred to in this document covers the areas of:

- Cheshire and Mersey
- Greater Manchester
- Isle of Man
- Lancashire and South Cumbria and
- North Wales.

5. ACTIVATION

5.1 This plan will be activated in response to the triggers and levels identified in section 10.4.

5.2 Escalation to the network Paediatric Critical Care Escalation Plan (PCCEP) is an internal decision made by the PCC lead consultant at both the Alder Hey Children's Hospital (AHCH) and Royal Manchester Children's Hospital (RMCH) on the Central Manchester University Hospitals Foundation Trust (CMFT) central site, in discussion with colleagues in the paediatric North West and North Wales Transfer Service (NWTS).

5.3 The NW Adult Critical Care (ACC) ODNs, including Cheshire and Mersey, Greater Manchester and Lancashire and South Cumbria will be informed by the AHCH/RMCH or the PCCCG when set up.

5.4 Escalation to PCCEP level 3 is a decision of the respective 'On-call' Area Team (AT) Directors, based on collaborative advice from NWTS and the Critical Care Consultants on call. The AT Directors will inform the Clinical Commissioning Groups (CCGs). If Cheshire & Mersey or Lancashire and Greater Manchester AT strategic command is already established, escalation will be a strategic command decision.

5.5 Once the network Paediatric Critical Care Control Group (PCCCG) is established at PCCEP 3, it is the source of advice to the regions ATs and NHS strategic command, if established.

5.6 Escalation to PCCEP level 4 will in itself trigger the establishment of NHS strategic command, if this has not already been established in response to the underlying pressures/acute incident.

5.7 Further escalation to PCCEP level 5 or 6 will be determined by the NHS strategic command structure.

5.8 ***Significant pressures experienced within the paediatric critical care services may trigger activation of the Adult Critical Care Escalation Plan (ACCEP) at the appropriate escalation level.***

5.9 De-escalation decisions are made by the group responsible at the higher level, for example at PCCEP level 3 the AHCH or RMCH Paediatric Critical Care Control Group would determine de-escalation to PCCEP 2. This will be based on clinical advice.

6. BACKGROUND

This NW Paediatric Critical Care Escalation Plan (PCCEP) is based on guidance used in the North East, and aims to facilitate effective implementation through utilising transferrable terminology. It has been developed on the basis of the lessons learned regionally and nationally from managing the delivery of paediatric critical care services during the pandemic of influenza A (H1N1) in 2009.

This guidance supports the *North West Adult Critical Care Escalation Plan*[2] (ACCEP); both plans are underpinned by the *Ethical framework for utilisation of critical care in response to exceptional demand*[3]. These are to be used as working documents from winter 2014 to support the responses required to the emerging pressures on critical care.

7. ENABLING MEASURES – actions required

During the pandemic of influenza A (H1N1) in 2009, a number of enabling measures were put in place to ensure sufficient capacity and access to PCC services. Not all of these measures were tested, however the critical care community recognises that in order to maintain surge capability these enablers will need to be sustained, held on standby or retained as processes to be reactivated as the situation demands.

Actions for the NW and North Wales ***paediatric critical care network,*** *adult critical care networks and Providers Trusts, in relation to internal plans for surge capacity/major incidents are highlighted in this section.*

7.1 Enabling measures

In order to maintain surge capacity these enablers will need to be sustained, held on standby or retained as processes to be reactivated:

7.1.1 Increasing the workforce by identification of staff that could be trained or retrained to work in a PCC environment.

7.1.2 Provision of training (content and materials) by the two NW paediatric centres, to support those provider organisations and their staff identified as 'escalation' units.

7.1.3 A standard operating procedure for a single regional point of contact (North West and North Wales Transfer Service [NWTS]) for advice and admission to, and /or, discharge from PCC (appendix 1) which includes:

a) Contact process for clinical advice (utilising current "retrieval" telephone number).
b) List of all children in the NW region where paediatric critical care advice is sought, with documentation of decisions and outcome.
c) List of all treated cases with location, supervision and outcome.
d) Terms of Reference for the NW Paediatric Critical Care Control Group (PCCCG), this includes senior clinical representation from NWTS, Alder Hey Children's Hospital (AHCH) and Royal Manchester Children's Hospital (RMCH) paediatric critical care teams usually by teleconference (appendix 2).

8. PRINCIPLES - underpinning the escalation plan

8.1 Organisational principles

8.1.1 Supporting the delivery of PCC is a shared responsibility of **all** NHS organisations (excluding mental health trusts) for the North West, South Cumbria, and the Isle of Man and North Wales regions.

8.1.2 For incidents which impact (or are likely to impact) on PCC capacity across the network, the specific ATs within Cheshire and Mersey and/or Lancashire & Greater Manchester will command the critical care response as described in section 10.

8.2 Clinical principles

8.2.1 PCC will be delivered to national clinical standards until fully staffed capacity is exceeded.

8.2.2 An escalation plan will be implemented to deliver PCC to children able to benefit, this will balance increased capacity with the minimum possible reduction in standards of care.

8.2.3 As far as possible all children who require ventilation for more than 24 hours will be cared for within the current designated PCC units at AHCH and RMCH.

8.2.4 All attempts will be made to ensure children requiring PCC will be cared for within the current designated PCC units (until PCCEP level 5 - see section 10.4). In the event utilisation of ACC units are required and to ensure safe care is delivered, children will be selected for care in such units considering the presenting circumstance, age and weight.

8.2.5 All clinical decisions will be underpinned by the *Ethical framework for utilisation of critical care in response to exceptional demand.*

9. PAEDIATRIC CRITICAL CARE CAPACITY

9.1 Normal Operating Capacity

The information provided below identifies current PCC capacity available in the NW under normal conditions.

Table 2: Current staffed PCC capacity

Hospital	Trust	Number of Beds
Alder Hey Children's Hospital (AHCH)	Alder Hey Children's NHS Foundation Trust	23 Level 3 14 Level 2 6 burns beds
Royal Manchester Children's Hospital (RMCH)	Central Manchester University Hospitals NHS Foundation Trust	17 Level 3. 12 Level 2. 2 burns critical care beds
Total L2 and L3 beds		**74**

9.1.1 Alder Hey Children's Hospital (AHCH)

a) Alder Hey Children's Hospital is a Lead Centre for PCC within the UK. The PICU is a joint cardiac and general unit and a designated ECMO surge centre. It is also along with RMCH a Major Trauma Centre for the North West, North Wales and the Isle of Man. There are over 1100 admissions per year and approximately 40% of these are post op cardiac patients. It supports cardiothoracic surgery including cardiac ECMO, paediatric surgery, neurosurgery, oncology, burns and all the medical subspecialties. Renal support is offered. Patients are cared for by 10 PICU Consultants with subspecialty input.

b) There are 21 bed spaces on PICU which can take up to 23 level 3 patients (2 large cubicles can accommodate 2 patients each). There are 14 Level 2 beds on a separately located and staffed HDU. Stable LTV (long term ventilation) patients are cared for on HDU or on the LTV Unit which is located on the Neurosurgical ward. On HDU patients may receive acute non-invasive respiratory support. Optiflow and Airvo support is provided on a variety of medical and surgical wards.

c) As of September 2015 when Alder Hey moves to the Children's Health Park there will be 24 Level 3 beds and 18 Level 2 beds, plus 6 critical care burns beds. In total there will be 48 co-located critical care beds.

9.1.2 Royal Manchester Children's Hospital (RMCH)

a) RMCH is designated as a Lead Centre for PCC within the UK. There are approximately 4000 intensive care bed days per year (over 750 admissions per year). Day to day care of children in the PICU is managed and led by the team of eight WTE PICU consultants in consultation with subspecialties as appropriate. There are 17 general intensive care beds (level 3) currently open with the physical capacity to expand up to 21 beds. All specialities with the exception of post-operative cardiac surgery are provided.
b) There are currently 12 paediatric HDU (level 2) beds with expansion capacity up to 15 beds. The department admits approximately 900 patients per year. Patients are admitted as both a step down from PICU and step up from the general wards as appropriate. Approximately 50% of patients are admitted post-operatively. Patients may receive acute non-invasive respiratory support or increased invasive support via home ventilators on this unit.
c) Adjacent to the PICU is a critical care area for children with thermal injuries, including two level 3 PICU beds. The PICU team share the delivery of care in this area with the Burns and Plastics Consultants. Currently around 10 children are admitted each year with major burns requiring respiratory support.

9.2 Surge Capacity

Surge capacity would be implemented as part of the agreed actions at specified escalation levels as described in section 10.4. The table below provides information on surge capability in the NW.

Table 3: NW Surge PCC capacity

Hospital	Trust	Number of Beds	Surge Beds
Alder Hey Children's Hospital (AHCH)	Alder Hey Children's NHS Foundation Trust	23 Level 3 14 Level 2 6 burns beds	6 Level 3 6 level 2
Royal Manchester Children's Hospital (RMCH)	Central Manchester University Hospitals NHS Foundation Trust	17 Level 3 12 Level 2 2 burns critical care beds	10 Level 3 3 Level 2
Total L2 and L3 beds		**74**	**25**

9.2.1 AHCH

a) As a first step theatre recovery would be used as an additional 6 Level 3 beds with support from theatre staff.
b) Neurosurgical HDU would be used to provide an additional 6 Level 2 beds.
c) In total Alder Hey have 36 beds with piped air, oxygen and suction points as required to provide supportive ventilation. There are 26 Evita 4XL ventilators, 9 Sensormedics ventilators (HFOV, 5 x 3100A, 4 x 3100B), 28 Advance anaesthetic machines including ventilators used for neonates to adults.
d) ***Escalation of Level 2 and Level 3 beds outside of PICU and HDU would present the Trust with significant challenges, in terms of safe staffing and supervision of critically ill children from both a nursing and medical perspective.***
e) Table 4 below provides detail of those areas included in supporting surge capacity.

Table 4: AHCH Surge capacity

WARD AREA	Existing Ventilated (Level 3)	Contingency Ventilated (Level 3)	Existing HDU (Level 2) Step Down	Contingency HDU (Level 2) Step Down	Comments:
PICU	**21**	**2**	**-**	**-**	First step to cohort ventilated patients. Capacity to flex down. Total 23 beds
Theatre Recovery		**6**			Close proximity to PICU. Temporary level 3 beds provision. *Support would be required from theatre staff.* Total 6 beds
HDU		**15**	**14**	**1**	Maintain HDU provision. Capacity to flex up. Total 15 beds.
Neuro HDU	**-**	**6**	**-**	**6**	Capacity to flex up and down. Potential for cohorting NIVV *Staffing ventilated patients 24 hour cover would be very challenging.* Total 6 beds
K2	**-**	**15**	**-**	**15**	Capacity to flex up and down. Ideally manage cardiac patients in one area. Total 15 beds.
Surgical wards					Potential for capacity for step down HDU patients as a result of no elective surgery.

9.2.2 RMCH

a) *Step 1:* The 4 additional Level 3 beds on PICU and 3 level 2 beds on PHDU would be opened.
b) *Step 2:* If this capacity was not adequate, 6 PHDU beds would be converted to PICU for stable level 3 patients. PHDU is located adjacent to PICU; medical staff could provide clinical input and many of the PHDU nursing staff have appropriate PICU skills to care for patients. As theatre staff become available as a result of cancelled elective work, they would provide support to PHDU staff.
c) *Step 3:* 2 in house stabilisation beds and 6 level 2 beds would be opened in theatre recovery; these would be staffed by theatre teams with support from Critical Care.

10. ESCALATION

10.1 Assumptions

10.1.1 All clinical decisions will be underpinned by the ethical framework for utilisation of critical care in response to exceptional demand.
10.1.2 The PCCEP levels are defined in relation to a rapidly progressive increase in demand for PCC. The most likely scenario would be an outbreak of a serious communicable disease of greater severity than that experienced from pandemic Influenza A (H1N1) in 2009.
10.1.3 The responses assume that there is similar pressure across the country. However, an acute incident (such as major accident or chemical poisoning involving many children) may require a rapid short term response at a high PCCEP level.
10.1.4 In most acute scenarios it is likely that children can be stabilised and relatively quickly transferred to other regions.
10.1.5 The PCCEP actions relate to a situation where there is excessive demand for PCC, but not for adult critical care. Where there is also excessive demand for adult critical care, actions will have to be modified. This is likely to cause more rapid escalation to a higher PCCEP level.

10.2 Network Escalation & De-escalation Decisions

10.2.1 Escalation to the Network Paediatric Critical Care Escalation Plan (PCCEP) level 2 is an internal decision made jointly between the PCC lead consultant for NWTS, and colleagues at Alder Hey Children's Hospital and Royal Manchester Children's Hospital PCC units (appendix 1).

10.2.2 The NW Adult Critical Care Networks of Cheshire and Mersey, Greater Manchester, Lancashire and South Cumbria and North Wales will be informed.

10.2.3 Escalation to PCCEP level 3 is a decision of the C&M and/or L&GM AT Medical Director or Director on call, based on advice from NWTS and the PCC Consultants on call. If C&M and/or L&GM AT strategic command is already established, escalation will be a strategic command decision.

10.2.4 Escalation to PCCEP level 4 will in itself trigger the establishment of NHS strategic command, if it has not already been established in response to the underlying pressures/acute incident.

10.2.5 Further escalation to PCCEP level 5 or 6 will be determined by the NHS strategic Command structure.

10.2.6 De-escalation decisions are made by the group responsible at the higher level, for example at PCCEP level 3 the NW PCCCG would determine de-escalation to PCCEP 2.This will be based on clinical advice.

10.3 Role of the NW Paediatric Critical Care Control Group (PCCCG)

10.3.1 There will be 'Terms of Reference' for the NW Paediatric Critical Care Control Group (PCCCG) which includes senior clinical representation from NWTS, both Alder Hey Children's Hospital and Royal Manchester Children's Hospital PCC teams (usually by teleconference) in relation to paediatric critical care issues (appendix 2).

10.3.2 At specified escalation levels (usually PCCEP 3 and above), in relation to PCC across the Network, the clinicians on the NW PCCCG will:

a) Make decisions on escalation in keeping with this plan.
b) Report daily or more frequently as required through the NW Paediatric Critical Care Control Group (PCCCG) if it has been established to address adult critical care capacity.
c) Make decisions in relation to admission and discharge criteria in keeping with this plan.
d) Support clinicians in making individual case decisions.
e) Monitor cases being managed outside of the PCC units.

10.4 Paediatric Critical Care Escalation Plan (PCCEP) levels, triggers and actions

PCCEP - Level 1 (Normal)

Situation: Current position and response to "expected" pressures

Actions:
Business and service is functioning as normal.

a. Children stabilised in outlying units if presented there.
b. Clinical advice on resuscitation and stabilisation by NWTS to staff in outlying units.
c. Retrieval by team from NWTS.
d. When under pressure, consultant to consultant discussions across the NW PCC units to move nursing staff to support admissions.
e. If still under pressure, consultant to consultant discussions between AHCH PCC unit and RMCH PCC unit to maximise staffed capacity.

f. No delayed discharges.

Possible triggers to PCCEP level 2:

- Unusual case mix.
- Increasing numbers of admissions (above usual seasonal activity) with same diagnosis.
- Responses to "expected pressures" have not enabled admission of urgent surgical cases that require post-operative PCC.
- Children requiring PCC are being ventilated in non PCC areas.

PCCEP - Level 2 (Concern)

Situation: All current staffed PCC capacity is occupied and children requiring PCC are being ventilated temporarily in resuscitation areas, or in adult critical care facilities, or children require cancellation of urgent surgery which will need post-operative PCC. Increasing numbers of PCC transfers out of NW region.

Actions:

Priority is to fully staff all current PCC beds and maximise capacity for admissions.

Consider the following and **flag** that some/all of these may need to be implemented at 24 hours' notice**:**

- Activation of AHCH and RMCH Paediatric Critical Care Control Group (PCCCG)
- Review of national PCC capacity/pressures via the national Directory of Services (DOS)
- Inform national PCC team of escalation and potential need to transfer out of NW region.
- Alert NW specialist commissioning team of the situation.
- Early discharge to ward areas where clinically feasible
- Older children requiring short term ventilation (less than 24 hours) only, to be retained in district general hospital (DGH) adult critical care units, subject to individual case discussion via single point of contact.
- Telephone support provided to DGH adult critical care units.
- No longer able to provide retrieval – DGHs to make provision for transfer (if bed available).
- Review elective paediatric surgery requiring PCC, cancelling on basis of lower clinical need.
- Review elective paediatric cardiothoracic surgery, cancelling on basis of lower clinical need.
- Deferral of other specialist services based on clinical decisions through the PCCCG. In relation to quaternary services, this will require national discussion.
- Transfers from out of region for general PCC will no longer be accepted except for specialist/quaternary services where these are continuing.
- Post-operative neonatal cases to be returned to neonatal critical care units.
- Local Area Teams (LAT) to be involved in these discussions to incorporate a 'tiered response'.

Possible triggers to PCCEP level 3:

- Underlying problem continues.
- Actions have not reduced pressure.
- Increasing numbers of transfers required to other PCC services out of NW region

PCCEP - Level 3 (Moderate)

Situation: All current PCC based ventilatory capacity is utilised within the NW region and transfers to other PCCs in other regions are required. Some older children requiring short term ventilation are being cared for in adult critical care units, subject to individual case discussion via single point of contact. There is a need to repatriate level 2 patients to referring hospitals (which may be earlier than would ordinarily be carried out).

Actions:
Priority is to fully staff all current PCC beds and maximise capacity for admission for children able to benefit, in line with the recommendations within the ethical framework[3].

a. Progressive implementation of all PCCEP level 2 actions.
b. CCCG meeting daily.
    - Stringent review of all children being managed in DGH adult critical care units as to whether they require admission to PCC.
    - No delayed discharges from PCC units.
    - Stringent review for all current general, surgical and cardiothoracic PCC patients in region and decisions re limiting the degree or duration of further support, balancing need for individual on-going care with, e.g. need for capacity for PCC after urgent elective surgery.
    - All non-emergency procedures (including neonatal and cardiothoracic) on children which require PCC to be considered together for prioritisation in relation to critical care capacity.
    - Reports daily or more frequently to AT Medical Directors or to network PCCCG (if established) or NHS Strategic command (if established)
c. Open additional escalation beds at AHCH and RMCH.
d. RMCH should review then need to transfer stable older paediatric critical care patients across to their adult general critical care unit.
e. Progressive and simultaneous cancellation of **all** elective paediatric surgery (at AHCH and RMCH sites) to free medical and nursing paediatric anaesthetic staff to staff additional capacity.
f. Unable to accept transfers from out of region due to the level of escalation and it is likely that transfers from the NW region are required to facilitate paediatric critical care.

Possible triggers to PCCEP level 4:
- Underlying problem continues.
- Actions have not reduced pressure.
- Increasing numbers of children ventilated in NW DGHs.
- Transfers out of NW region to other areas nationally becoming difficult due to reduced capacity.

PCCEP - Level 4 (Severe)

Situation: All current PCC based ventilatory capacity utilised within the NW region and national capacity under pressure. Support provided by RMCH by Adult Critical Care Service initially on CMFT central site, for older children (>25kg > 10yrs of age. Children with ability to benefit from PCC are still awaiting admission. Utilisation of the Ethical Framework will be undertaken to aid decision making (appendix 3).

Actions:
Priority is to fully staff all current PCC beds, progressively open additional capacity and maximise capacity in PCC centres for younger children able to benefit.

a. CCCG meeting daily.
b. Reporting to agreed timescales to NHS strategic command (via NCCCG if established)

c. The principles of triaging are as above, but greater stringency will be required in deciding which patients should receive PCC **and** the extent of the treatment interventions provided. There is also a recognition that at this stage treatment limitation decisions may need to be made.
d. All previous escalation actions will be in place. The following to be implemented progressively as pressure increases:
    - Cancellation of all elective non-life threatening paediatric surgical and cardiothoracic surgery (staged approach and speciality dependent)
    - Anaesthetic and recovery staff to support PCC (as electives progressively cancelled).
    - Through a staged process in line with local protocols, the activation of local surge beds should be initiated (see Section 9.2).
    - Lowering of standards of care is the inevitable consequence of reduction in PCC trained nurse/patient ratios. Team clinical management with PCC trained nurses, supervising anaesthetic and recovery staff.
    - Cancellation of annual leave (including study leave) for PCC trained medical, nursing and key support staff.
    - PICS standards for maintaining nursing ratios would at this point likely be unsustainable.
e. Decisions will be made in parallel in relation to the care which can be offered in neonatal critical care units, in particular balancing post-surgical care and duration of ventilatory and multi organ support.

Possible triggers to PCCEP level 5:

- Not able to transfer out of region as no capacity in other regions nationally.
- Escalation to PCCEP level 4 will in itself trigger the establishment of NHS NW strategic command, if it has not already been established in response to the underlying pressures/acute incident.
- Further escalation to PCCEP level 5 or 6 will be determined by the NHS strategic command structure.

PCCEP – Level 5 (Critical)

Situation: All current PCC based ventilatory capacity utilised in the NW. Additional older children requiring short term ventilation (less than 24 hours), will need to be cared for in DGH adult critical care units, subject to individual case discussion via single point of contact. Many additional children now requiring transfer to other national PCC units needs unmet, increasing numbers requiring ventilated in DGH adult critical care units.

Actions:

Priority is to utilise all additional possible ventilated beds which can be used for children within the two current centres, for those children most likely to benefit.

a. PCCCG meeting once daily.
b. The following will be implemented:
    - Utilisation of Adult Critical Care (ACC) beds at all DGHs for progressively younger children (criteria based on age, weight and clinical complexity), with supervision from PCC staff.
        - Further reduction in PCC trained staff/patient ratios.
        - Limiting of complexity and period of critical care support to individual children.

Possible triggers to PCCEP level 6:

- Further escalation to PCCEP level 6 will be determined by the NHS strategic Command structure.

PCCEP - Level 6 (Potential Service Failure)

Situation: All possible critical care capacity utilised in NW and nationally. Children requiring ventilatory support cannot be admitted. Many very ill children are on paediatric wards. This phase may also occur if critical infrastructure fails (E.g. no drugs available) or no staff available.

Actions:

a. If this situation is reached, the command structures may determine that critical care can no longer be delivered and that staff should be redeployed to give lower levels of support to children.
b. Reverse triage decisions will need to be made in collaboration with, and as authorised by NCB North Region (NW) and NHS England. This will be implemented only after all available paediatric critical care capacity is saturated.

11. STAFF INDEMNITY

As the contingency unfolds and escalation plans are initiated, it is recognised that all groups of clinical staff (medical, nursing and allied health professionals) will be expected to work outside of their usual working practices if escalation is to be successful.

Examples include:

- Caring for greater numbers of paediatric patients than are recognised to be acceptable and safe by medical and nursing professional bodies.
- Non-critical care paediatric trained staff working alongside critical care paediatric trained colleagues, caring for critically ill children.
- Working for longer hours than is stipulated by the European Working Time Directive.
- Adult critical care staff caring for critically ill children with either limited or no specialist training. Checklists should be prepared to mitigate risk and aid patient safety. Examples of these can be obtained from the Adult Critical Care Networks.
- Staff providing a limited standard of critical care than is normally considered acceptable particularly during escalation level 3.
- Medical staff having to adjust their decision-making process for admission and treatment withdrawal, in times of extreme capacity limitations.

An *Ethical framework for utilisation of critical care in response to exceptional demand* has been developed to underpin decision making processes when services are full to capacity. This can be obtained from the NW PCCN.

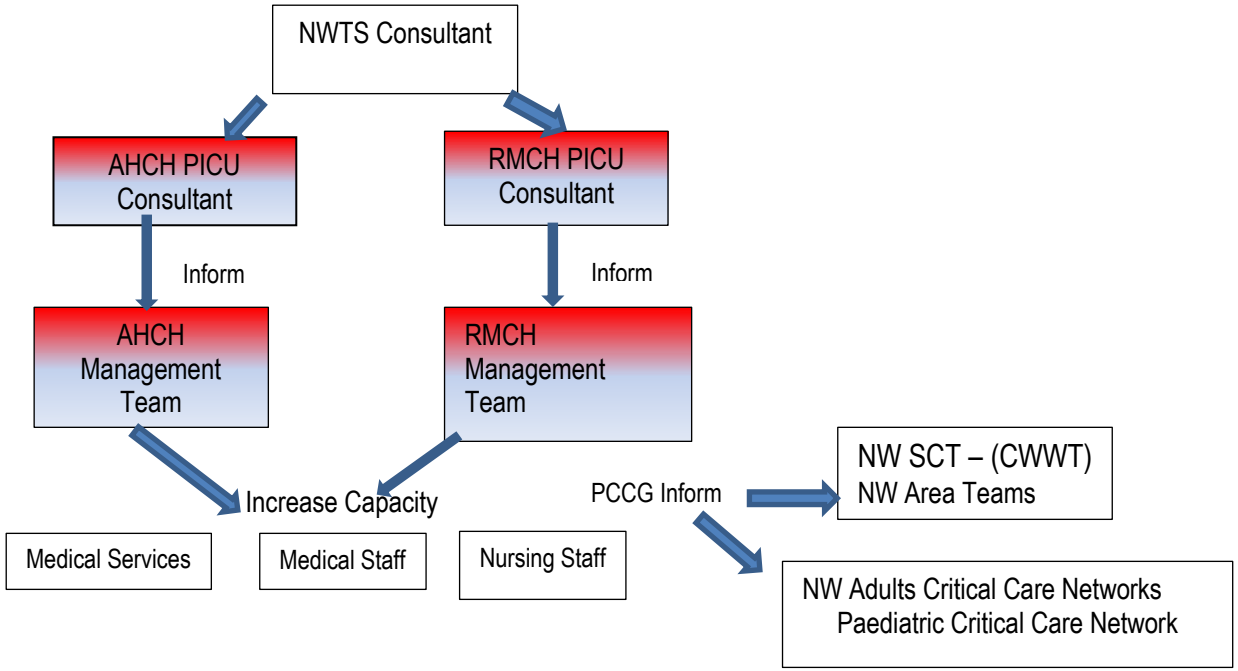
Through collaborative relationships, Adult Critical Care units will be supported in developing the knowledge and skills of key staff through the provision of annual educational opportunities. It is recommended that through cascade training programmes, ACC units ensure any risk is mitigated in the event paediatric escalation activity requires utilisation of adult critical care services.

12. GLOSSARY

ACC	Adult Critical Care
ACCEP	Adult Critical Care Escalation Plan
AHCH	Alder Hey Children's NHS Foundation Trust Hospital
AT	Area Team
CCG	Clinical Commissioning Group
C&M	Cheshire and Mersey
DGH	District General Hospital
EPRR	Emergency Preparedness Resilience and Response
GM	Greater Manchester
HDU	High Dependency Unit
L&SC	Lancashire and South Cumbria
NW PCCN	North West and North Wales Paediatric Critical Care Network
NWTS	North West and North Wales Paediatric Transfer Service
ODN	Operational Delivery Network
PCC	Paediatric Critical Care
PCCEP	Paediatric Critical Care Escalation Plan
PCCCG	Paediatric Critical Care Control Group
PICU	Paediatric Intensive Care Unit
RMCH	Royal Manchester Children's Hospital
WTE	Whole Time Equivalent

North West and North Wales
Paediatric Critical Care Network

Surge & Escalation Decision Model



Appendix 2

NORTH WEST PAEDIATRIC CRITICAL CARE CONTROL GROUP (PCCCG)

Terms of Reference and Membership

Purpose
To coordinate, monitor, and direct a region wide (North West and South Cumbria) response to an exceptional demand for paediatric critical care services, which are provided at Alder Hey Children's Hospital (AHCH) and Royal Manchester Children's Hospital (RMCH) sites.

Depending on the cause of the pressure on PCC, the local Trust PCCCG will collaborate with trusts and the NW ACC ODNs to ensure a coordinated adult critical care response.

Broad Remit of the Group

- To monitor and coordinate paediatric critical care patients, staffing (nursing, medical, and admin), disposables and equipment for critical care services across the Network.
- To assess critical care demands and advise the Hospital Tactical Control Teams on the appropriate reallocation of staff, beds, equipment, disposables and drugs
- To monitor admissions, access and throughput to paediatric critical care beds and direct the appropriate expansion and cohorting across the NW organisations
- To advise the AHCH and/or RMCH on any changes to normal paediatric critical care standards of care e.g. equipment and staffing
- To prioritise and direct the delivery of staff education and training to support the staffing requirements of paediatric critical care patients. Annual review of adult critical care staff training needs should be undertaken and facilitated in collaboration with the ACC ODNs.
- To coordinate staffing rotas/off-duty and support the Hospital Tactical Control Team with organisation and coordination of paediatric critical care services throughout the Trust.
- To ensure the use of the regional '*Ethical framework for utilisation of critical care in response to exceptional demand',* this underpins all decisions at all times. A multi-professional team with no less than two consultants will decide on the admission and access to critical care beds and limitation on treatment. When appropriate withdrawals of treatment will be discussed at the daily meeting and will be recorded in meeting notes.
- To maintain and review a log of ethical decisions
- To review all patients on the 'line list'
- To perform a stringent review of all elective surgery requiring PCC, with a view to cancellation of surgery in accordance with the Trusts' Major Incident Plan and the Network PCCEP level
- Facilitate early discharge to ward areas where clinically feasible.
- To interact with and inform the North West Adult Networks and the NW NHS England CNTW Area Teams, on Trusts Critical Care capacity and demand.
- Provide appropriate representation (possibly at short notice) to represent the 2 Trusts on the Network Critical Care Control Group (NCCCG) in accordance with the Network PCCEP.

Timing and Operation

- The Trust CCCG will be convened in line with the Trusts' Major Incident Plan and at Network PCCEP 3.
- A Chair will be identified who will have responsibility for the actions of the CCCG. This will be the on-duty Consultant from AHCH or RMCH, according to a developed weekly alternating rota.
- The establishment of Trust CCCG may be at short notice and will be driver dependant.
- The group will meet daily / weekly dependent upon on activity and driver to coordinate paediatric critical care activities.
- The Chair of the group will report to the Trust Hospital Control Team.
- A teleconference facility will be provided for staff to dial in from their units in the event of NW pressures. This will be facilitated by NWTS.
- Key decisions from the conference call will be documented.

Membership

- The Trust's Clinical Control Group will be multi-professional
- Senior clinical representation from NWTS, AHCH and RMCH paediatric critical care teams (usually by teleconference) to include a Consultant Paediatric Intensivist.
- Senior PIC Nursing staff and AHP's as appropriate
- Senior Pharmacist
- Senior Trust Manager / Emergency Planning Officer
- Senior Bed Manager
- *Others as appropriate such as outreach for early discharge planning situations*
- Ad hoc partners as appropriate e.g. NW Adult and Paediatric Critical Care Network representatives.

Governance

The Trust CCCG will be accountable to the Trust Tactical Command.

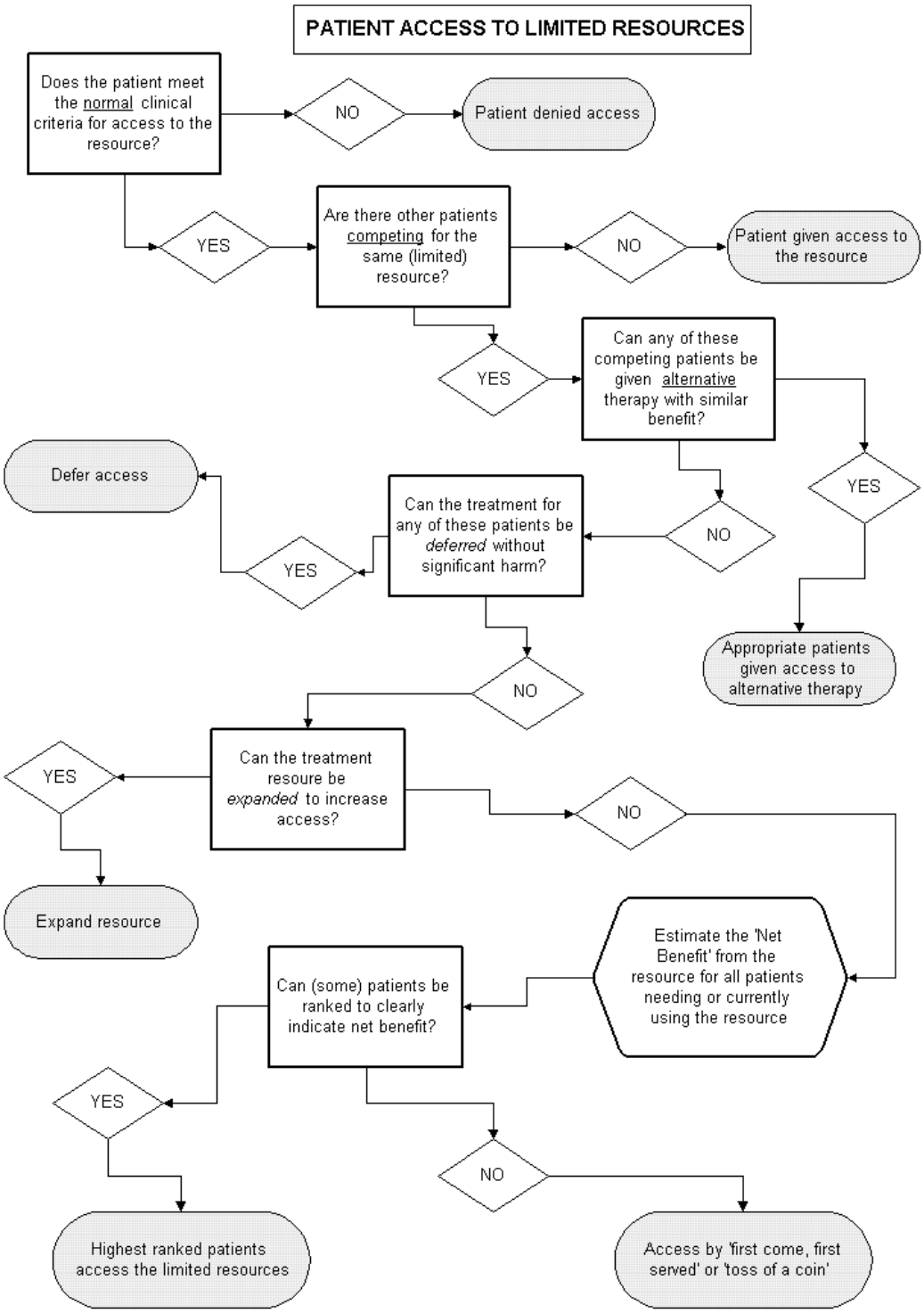
Administration and Coordination

Secretariat to each trusts CCCG will be provided by a member of the Critical Care / Anaesthetic admin team or an appropriate person as designated by the Chair of the group.

Appendix 3

Ethical Decision Making Algorithm

(Based on: Ardagh M. Criteria for prioritising access to healthcare resources in New Zealand during an influenza pandemic, or at other times of overwhelming demand. *NZMJ* 119; 1243: October 2006. http://www.nzma.org.nz/journal/119-1243/2256/)



Appendix 4

PAEDIATRIC CRITICAL CARE NETWORK CONTACT DETAILS

NW and North Wales Paediatric Critical Care Network

Personnel Contacts		
NWTS (Paediatric Retrieval) Phone Number 08000 84-83-82		
NW Paediatric ICU Contacts		Consultant Intensivist on call (AHCH) **Tel: 0151 252 5242** Consultant Intensivist on call (RMCH) **Tel:** 0161 701 8224
Paediatric ICU Leads	Dr Steve Kerr (Clinical Director, Critical Care) Tel: 0151 252 5040 Alison Fellowes (PICU Nurse Manager) Tel: 0151 252 4612	Alder Hey Children's Hospital
	Dr. Rachael Barber (Clinical Director, Critical Care) Tel: 0161 701 8047 Clare Ryan (Clinical Nurse Manager) Tel: 0161 701 8088	Royal Manchester Children's Hospital
Paediatric Critical Care Network Clinical Lead: Mahil Samuel: 0161 701 8040 Deputy Clinical Lead: Sarah Santo: 01925 853550 Network Manager: Suzanne Dixon Tel: 0161 701 8146		

REFERENCES

[1] *'Management of surge escalation in critical care services: standard operating procedure for paediatric intensive care' (NHS England 2013)*

[2] *North West Adult Critical Care Escalation Plan, 2014*

[3] *Ethical framework for utilisation of critical care in response to exceptional demand, 2014*