



National Paediatric Critical Care Audit

Understanding Practice in Clinical Audit and Registries (UPCARE): 1.0 Programme name National Paediatric Critical Care Audit

1.1 Abbreviation PICANet - Paediatric Intensive Care Audit Network

1.2 Audit or non-audit Audit

1.3 HQIP commissioned Yes

1.4 Programme unique identifier HQIP114

Contract status Ongoing

HQIP AD JC

HQIP PM NP

1.5 Lead organisation University of Leeds
University of Leicester

1.6 Programme homepage <https://www.picanet.org.uk/>

1.7 Programme summary The Paediatric Intensive Care Audit Network (PICANet) is an international clinical audit of paediatric intensive care (PIC) activity in the UK and Republic of Ireland (ROI). Established in 2001, with the aim of providing a secure and confidential, high quality clinical database of PIC activity, the National Paediatric Critical Care Audit run by PICANet is now part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) and recognised as the definitive source for PIC data in the UK and ROI.

PICANet collects data from designated NHS and private Paediatric Intensive Care Units (PICUs) providing paediatric level 3 critical care and Specialist Paediatric Critical Care Transport Services. Level 3 care denotes invasive and non-invasive means of aiding vital organ functions through the aid of clinical interventions that require close monitoring and 1:1 care.

Data is collected on patient demographics; referral, transport and admission details; diagnosis; interventions received and outcomes. Customised data collections are sometimes carried out which collect additional clinical data items specific to an area of care or in response to local or national policy requirements.

Data-collected from PICUs and Specialist Transport Services is used to support service evaluation, clinical audit and research.

Service evaluation objectives: To generate data to define the supply, demand and outcomes for current PIC services and the patient population using the service. This supports healthcare planning, quantifies resource requirements and provides contextual information to facilitate the review of the audit data at both national and individual PICU level.

Audit objectives: To improve the quality of care provided to patients as part of PIC services by measuring the quality of care and outcomes against pre-determined standards, benchmarking against other care teams and taking specific actions to improve quality of care.

Research objectives: The PICANet research database aims to support high quality research in the areas of paediatric intensive care, specific conditions affecting children and young people accessing paediatric intensive care services, epidemiology of critical illness, and public health. Following a rigorous data request process, and providing the appropriate research ethics approvals and legal bases for data processing and sharing are in place, baseline data can be provided for research studies and clinical trials to extend the available knowledge with a view to ultimately providing benefits to patients.

2.1 Organogram

<https://www.picanet.org.uk/organisational-structure/>

2.2 Organisations involved in delivering the programme

Delivery of the Programme

Delivery of the programme is managed as a collaboration between the University of Leeds and the University of Leicester. The University of Leeds are responsible for the secure hosting of the PICANet Web database and take a lead on governance arrangements, managing data requests and analysis of the Admissions dataset. The University of Leicester provide clinical input to the team, are responsible for performing unit and transport team validation and take a lead on analysis of the Referral, Transport and Staffing data.

Governance / Steering of the Programme

Intensive Care National Audit and Research Centre (ICNARC) <https://www.icnarc.org/>

The Intensive Care National Audit and Research Centre (ICNARC) run national clinical audits of the quality of care within adult intensive care units. ICNARC is represented on the PICANet Steering Group.

Paediatric Critical Care Society (PCCS) <https://pccsociety.uk/>

The Paediatric Critical Care Society (PCCS) is the main professional society representing the UK paediatric intensive care community. PICANet works closely with PCCS and audits practice against a number of PCCS standards. The PCCS President and PCCS Study Group Chair are members of the PICANet Steering Group.

NHS England (Commissioners) <https://www.england.nhs.uk/>

NHS England commissions paediatric critical care within England and also commissions the National Clinical Audit and Patient Outcomes Programme (NCAPOP) via HQIP. NHS England is represented on the PICANet Steering Group.

Funders

Healthcare Quality Improvement Partnership (HQIP)

PICANet is commissioned for care providers within England by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit & Patient Outcomes Programme (NCAPOP). HQIP is represented on the Steering Group. www.hqip.org.uk

National Office of Clinical Audit (NOCA)

PICANet is commissioned for care providers within Ireland by the National Office of Clinical Audit (NOCA). www.noca.ie

The Royal Belfast Hospital for Sick Children

PICANet is commissioned for care providers within Northern Ireland by The Royal Belfast Hospital for Sick Children. The Royal Belfast Hospital for Sick Children are represented on the Steering Group and Clinical Advisory Group.

www.belfasttrust.hscni.net/hospitals/ChildrensHospital.htm

Welsh Health Specialised Services Committee

PICANet is commissioned for care providers within Wales by the Welsh Health Specialised Services Committee. www.whssc.wales.nhs.uk/home

NHS Lothian/National Service Division NHS Scotland

PICANet is commissioned for care providers within Scotland by NHS Lothian/National Service Division NHS Scotland.

HCA Healthcare

PICANet is commissioned for a number of private care providers within England by HCA Healthcare. www.hcahealthcare.co.uk

2.3 Governance arrangements

The PICANet Team consists of the Principal Investigators (PIs) and staff from the Universities of Leeds (PI: Feltbower) and Leicester (PI: Draper). This team meets monthly to review progress against the timelines and contract deliverables, to consider any actual or potential barriers to satisfactory progress and to agree the work programme in the long and short term.

The entire project is overseen and guided by the PICANet Steering Group. The Steering Group oversees the wider governance of the project, providing advice and guidance on policy and operation to ensure that PICANet provides a sound evidence-base for service evaluation, audit and research in paediatric intensive care. The Steering Group has representatives from a broad range of organisations with an interest in PIC and includes lay representation, the Paediatric Critical Care Society, and the Royal Colleges of Paediatrics and Child Health, Anaesthetists and Nursing. A full membership list is available on the PICANet website (<https://www.picanet.org.uk/people/steering-group/>).

In addition to these formal management structures, PICANet is overseen by a Clinical Advisory Group (CAG), whose members represent the paediatric intensive care teams that submit data to PICANet. The CAG has the following functions: to provide practical clinical advice to the PICANet team; to act as a forum in which PICU staff can raise practical operational issues about data entry, transmission and validation; to contribute to discussions about the long term strategic development of PICANet; to identify important audit and research questions that the PICANet database could address; and to review the results and interpretation of analyses from a clinical perspective. It also acts as the natural forum for the co-

ordination of multi-centre clinical research studies and reviews requests for access to PICANet data to ensure feasibility, prevent duplication of service evaluation, audit or research activity and to encourage collaboration. The CAG has a representative on the Steering Group to give feedback from a clinical perspective. A full membership list is available on the PICANet website (<https://www.picanet.org.uk/people/clinical-advisory-group/>)

2.4 Stakeholder engagement

All stakeholders were originally involved in designing the programme and defining the aims and objectives.

Clinicians, nurses and audit staff are involved in collecting data and via the Clinical Advisory Group who help to select quality metrics and contribute to the data analysis and interpretation.

Patients and carers are involved via the Parent and Families Group and also via representation on the Steering Group defining aims and objectives for the programme.

2.5 Conflict of interest policy

The *Process for declaring interests and dealing with conflicts of interest* has been developed and will be published on the PICANet website shortly. The PICANet Steering Group and Clinical Advisory Group *Declaration of Interests registers* are available on request as per indicated in section 1.4 of the document.

3.1 Quality improvement goals

Improving the accuracy of mortality risk adjustment such that outliers can be identified robustly.

Encouraging Specialist Paediatric Critical Care Transport Services teams to review their retrieval mobilisations times to understand the reasons for delays in cases where the 30 minute NHS England target is not achieved.

Taking steps to address clarity of definition and quality of reporting of unplanned extubations with a view to reassess suitability of unplanned extubations as a candidate for outlier analysis and associated QI activity to reduce the level of variation in unplanned extubation rates.

Understanding reasons for variation in emergency readmission rates within 48 hours.

Primary healthcare improvement goals for 2022 - 2025:

1. Improving prediction in risk of emergency readmissions to PICU within 48 hours accounting for case volume and occupancy levels in individual units;
2. Reducing variation in specialised transport mobilisation times and access to PICU;
3. Reducing rates and variation in unplanned extubations;
4. Understanding and reducing variation of healthcare-associated infection in PICU;
5. Understanding variation and predictors of time of discharge.

Secondary healthcare improvement goals dependent on capacity:

6. Understanding mental health outcomes among parents of children admitted to PICU;
7. Providing real-time reporting tools for units and transport services to stimulate local quality improvement strategies;
8. Understanding and reducing variation in duration of organ support and long-term in-PICU stays.

3.3a Methods for stimulating quality improvement

Workshops; Action plan template; National Clinical Audit Benchmarking (NCAB) tool (via CQC); On-line Quality Improvement guides

3.3b Quality improvement supplemental information

PICANet supports participants in quality improvement by:

- Providing key QI recommendations for action within the summary report
- Hosting Annual Meetings to discuss the audit's key recommendations (up until Jan 2022)
- Providing online reporting facilities in real-time
- Supporting local audits with customisable local audit facilities
- Circulating RSPRT plots on a quarterly basis to encourage real time monitoring of mortality
- Providing guidance on interpretation of funnel plots and RSPRT plots

PICANet QI resources page: <https://www.picanet.org.uk/quality-improvement-resources/>

4a) Please add the most recent date that you have reviewed and updated an online

15/12/2023

**version of UPCARE
(Programme &
Workstream sections)
on your project's
website (see pop-up
guidance).**

**4b) Please add a
hyperlink to UPCARE
on your website (see
pop-up guidance).**

<https://www.picanet.org.uk/>