



National Paediatric Critical Care Audit

UPCARE: 1.00 National Paediatric Critical Care Audit
Programme name -
 please do not change
 this field.*

1.01 Abbreviation PICANet - Paediatric Intensive Care Audit Network

1.1 Contract status Ongoing

1.2 Audit or non-audit Audit

**1.3 HQIP
commissioned*** Yes

**1.40 Programme
unique identifier*** HQIP114

1.41 HQIP AD JC

1.42 HQIP PM CG

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. It was established in 2001 with the aim of providing a secure and confidential, high quality clinical database of paediatric intensive care activity. PICANet is part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP), delivering the National Paediatric Critical Care Audit (NPCCA), and is recognised as the definitive source for paediatric critical care (PCC) data in the UK and Republic of Ireland.

PICANet collects data from NHS and private designated Paediatric Intensive Care Units (PICUs) providing paediatric Level 3 Critical Care and 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.

In 2021 PICANet was commissioned by NHS England to undertake a development project to expand PICANet data collection to include discrete Level 2 Paediatric Critical Care (PCC) data and Extra Corporeal Membrane Oxygenation (ECMO) Admission and Referral data.

Following successful completion of the pilot study in October 2022, the PICANet Level 2 expansion is taking place on a progressive course from February 2023 to

involve collecting data for children and young people admitted to designated NHS Level 2 units in England.

In October 2023, PICANet launched the Extra Corporeal Membrane Oxygenation (ECMO) data collection. This is collected by the PICUs with paediatric ECMO Centre teams. Teams were encouraged to retrospectively collect data from April 2023.

In 2026, the Level 2 and ECMO data collections were incorporated into the NPCCA.

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.

The aims of PICANet are to support clinical audit, service evaluation, quality improvement and research. The Level 2 PCC and ECMO data collections are for the purposes of non-research activity at this stage and do not form part of the PICANet research database.

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.

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.

Quality Improvement: Our Healthcare Quality Improvement Plan in outlines methods of quality improvement and includes a number of healthcare quality improvement goals. Local organisations and the PICANet team, often in collaboration with paediatric critical care colleagues and researchers, utilise the clinical audit data to work towards achieving local and wider goals. The plan, along with our resources to promote and enable quality improvement is available on our Quality Improvement Resources webpage: <https://www.picanet.org.uk/quality-improvementresources/>

Research objectives: The PICANet research database aims to supports 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/>

2.2.0 Organisations involved in delivering the programme (please note: this was an existing question

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

which we have now split out into 2.2.1-2.2.3 as well as added 2.2.4. We plan to remove this question in the future once the below are complete).

governance arrangements, managing data requests and statistical analysis. The University of Leicester provide clinical input, are responsible for the development and maintenance of the PICANet Web application and take the lead on dataset development and validation. The responsibility for patient and public involvement in the project is shared.

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. <https://belfasttrust.hscni.net/hospitals/childrens/>

NHS Wales Joint Commissioning Committee

PICANet is commissioned for care providers within Wales by the NHS Wales Joint Commissioning Committee. <https://jcc.nhs.wales/>

NHS Lothian and NHS Greater Glasgow and Clyde, Scotland

PICANet is commissioned for care providers within Scotland by NHS Lothian and NHS Greater Glasgow and Clyde.

HCA Healthcare UK

PICANet is commissioned for a private care provider within England by HCA Healthcare UK. 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: Seaton). This team meets every six weeks 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 membership includes representatives from a broad range of stakeholders and paediatric critical care organisations across the UK and Republic of Ireland and includes parent/carer representation. A full membership list is available on the PICANet website (<https://www.picanet.org.uk/about/policies/steering-group/>).

In addition to these formal management structures, PICANet is overseen by a Clinical Advisory Group (CAG), whose members represent the paediatric critical care teams that submit data to PICANet. 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/about/policies/clinical-advisory-group/>).

The Steering Group and/or CAG review and sign-off on proposed changes. e.g. in relation to data collection, key metrics and they receive draft copies of the State of the Nations Reports for quality assurance prior to publication. Formal meetings are held and minuted with quoracy monitored.

2.4 Stakeholder engagement

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

Key functions of the Steering Group are:

- To provide advice on key strategic objectives for PICANet taking into account the needs of stakeholders including funders.
- To monitor progress on the achievement of these objectives.
- To monitor and advise on the quality of the scientific work of the project.
- To review the decisions of the Clinical Advisory Group relating to data requests in order to ensure data is used appropriately for good quality studies.
- To ensure the quality and effectiveness of PICANet is maximised.
- To review risks and areas of uncertainty relating to PICANet.
- To guide and steer quality improvement objectives and initiatives.

Key functions of the Clinical Advisory Group are:

- To ensure clinical engagement from across the United Kingdom and Republic of Ireland.

- Provide a clinical input and overview to guarantee that PICANet remains “fit for purpose”.
- Review the merits of research and data request proposals made to PICANet to ensure scientific and clinical validity, to prevent duplication and ensure that requests are in the public interest.
- Provide clinical input to the PICANet Steering Group.
- Assist with requests made by the PICANet Steering Group.
- Refer issues to the PICANet Steering Group.
- Provide members, led by the Chair, to consult on, or undertake as appropriate, investigations of units who are found to be potential outliers, as per the Outlier policy.

In addition to the parent/ carer representation on the Steering Group, we build in patient and public involvement (PPI) activities throughout the year to actively collaborate with and receive feedback from with parents/ carers, children and young people about the work of PICANet.

2.5 Conflict of interest policy

The *Process for declaring interests and dealing with conflicts of interest* is available online (https://www.picanet.org.uk/wp-content/uploads/sites/25/2021/12/PICANet-process-for-declaring-interests-and-dealing-with-conflicts-v1.0_2021_02_10.pdf). The PICANet Steering Group and Clinical Advisory Group *Declaration of Interests registers* are not in the public domain but they are available on request. A reminder to review declaration of interests is issued at each group meeting.

3.1 Quality improvement goals

Primary healthcare improvement goals :

1. Supporting organisations to understand factors associated with emergency readmission to inform local quality improvement initiatives in order to reduce such events;
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 length of stay and time of discharge;

Secondary healthcare improvement goals:

1. Understanding and reducing variation in duration of organ support and long-term in-PICU stays.
2. Explore the antecedents of PICU admission and the short, medium and long-term impacts on the mental, psychosocial and physical outcomes of the child.
3. Understand the changing presentation of children (e.g., increasing numbers of children living with medical complexity) admitted to PICU to inform future healthcare planning

All outcomes will be evaluated in relation to health inequalities such as ethnicity and social deprivation.

3.3a Methods for stimulating quality

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

improvement* (GIRFT)

3.3b Quality improvement supplemental information

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

PICANet supports participating organisations in quality improvement by:

- Providing data and validation 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

National recommendations to support quality improvement, targeted at national or regional bodies that together are able to effect national level change, are included in the annual State of the Nations Reports.

4a. Please add the most recent date that you have reviewed and updated an online version of UPCARE Programme section on your project's website (click into the response to see pop-up guidance).

30/03/2026

4b. Please add a hyperlink to UPCARE Programme section on your website (click into the response to see pop-up guidance).*

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

