



PICANet Healthcare Quality Improvement Plan

V2.0

September 2024

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Document History

Version	Author	Date	Comments
1.0	Elizabeth Draper Richard Feltbower Hari Krishnan Lyn Palmer Hannah Lever	29 Sep 2022	V1.0 covers the strategy and plan for healthcare improvement. Based on an earlier draft Quality Improvement Plan from 2020 – 2021 with feedback from PICANet Clinical Advisory Group and Steering Group. The draft has been updated and finalised with the healthcare quality improvement strategy and plans set out in the tender for the 2022 – 2025 National Paediatric Critical Care Audit (as commissioned by HQIP).
2.0	Hari Krishnan Sarah Seaton Richard Feltbower Hannah Buckley Hannah Lever	16 Sep 2024	Document title update from <i>Healthcare Improvement Strategy and Plan</i> to <i>Healthcare Quality Improvement Plan</i> for consistency across NCAPOP. General update throughout. Primary healthcare improvement goal no.1 has been revised and goal no.5 has been expanded. SMART objectives updated for all goals.

Next review date	Reviewed by	Date
Sep 2023	See v2.0 in the table above	Sep 2024
Apr 2025 (Extension contract PLD 4)		

1. Introduction

PICANet

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. It is part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) and is recognised as the definitive source for paediatric critical care 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 Specialist Paediatric Transport Services (see <https://www.picanet.org.uk/about/participating-organisations/> for a list of participating organisations).

The aims of PICANet are to support clinical audit, service evaluation and research.

In March of 2021, PICANet was commissioned by NHS England and Improvement to undertake a 2-year development project to expand its clinical audit activity to include data collection and reporting of children in discrete Level 2 paediatric critical care units (previously referred to as 'High Dependency Units') and of Extra Corporeal Membrane Oxygenation (ECMO) delivered in ECMO centres within PICU.

Upon completion of the PICANet Level 2 Expansion pilot to test the feasibility and quality of data collection in Level 2 critical care units in October 2022, the roll out of data collection in all designated Level 2 units in England commenced in February 2023. In due course, our aim is to understand the picture of both Level 2 and Level 3 paediatric critical care and investigate variation in activity.

In October 2023, the ECMO data collection was launched which comprises of both an ECMO Referral and ECMO Admission dataset. ECMO teams were encouraged to retrospectively collect data from April 2023.

Quality Improvement

The clinical audit collects robust data which is fundamental to supporting the cycle of quality improvement for care, outcomes and service provision for children and young people (CYP) transferred to and/or admitted to PIC.

Quality improvement is ultimately for the benefit of CYP. Therefore, the healthcare improvement goals, included in section 2, were originally developed in 2021 with input from parents with paediatric intensive care experience.

To communicate quality improvement, PICANet's State of the Nation Report documents have a simple, section-based layout to aid accessibility for children, parents and carers. Infographics highlight some of the key findings. Examples of the benefit of the audit are also included in other patient facing materials such as leaflets.

PICANet's Quality Improvement lead is Dr Hari Krishnan.

PICANet will also approach world leading experts and collaborators in optimal audit feedback methods and reporting tools, for example Professor Rebecca Randall who led the QualDash study (<https://fundingawards.nihr.ac.uk/award/16/04/06>) and the SAPPHERE (Social Science Applied to Healthcare Improvement Research) research group led by Professor Carolyn Tarrant in the Department of Health Sciences at the University of Leicester.

Quality Improvement (QI) projects will also be offered to Master students on the MSc in Quality and Safety in Healthcare and MRes in Applied Health Research at the University of Leicester. Sarah Seaton is the dissertation coordinator for these degrees. Collaborations between PICANet, clinical academics and other academics which fall within the parameters of the National Paediatric Critical Care Audit contract with the Healthcare Quality Improvement Partnership (HQIP) are possible via HQIP's extended output request process.

2. Current quality of care

The PICANet Key Metrics are included in the associated PICANet Key Metric Definitions document and in the HQIP metric list template uploaded to Podio. The latest findings in relation to the metrics can be found in the latest annual State of the Nation Report, see the [Reports page of the PICANet website](#) and the [PICANet Data Dashboard](#) which is updated on a monthly basis from November 2024 onwards following a series of quarterly updates during 2024.

The findings in relation to the metrics from the PICANet State of the Nation Report 2023 (data collection period: January 2020 – December 2022) are outlined below.

Case ascertainment: The method of measuring case ascertainment and how this has evolved is documented in the Methods section of the [latest State of the Nation Report Appendices](#).

Timeliness of data submission: A PICANet database outage took place between March and June 2022 therefore the completeness of patients' admission data within two months of their discharge from the unit are calculated for the period of July – December 2022. 80% of admission records were completed within two months of discharge across the UK and Republic of Ireland.

Transport team mobilisation times: Of the 4,505 journeys carried out for children requiring urgent transport to a PICU [in 2022], 67% were started within 30 minutes, with over 83% started within one hour of the clinical decision being made. Just over 4% of journeys started more than three hours after the decision.

Emergency readmissions within 48 hours: Overall rates of emergency readmission within 48 hours of discharge decreased slightly from 1.7% over the period 2019–2021 to 1.6% during

2020–2022. However, there were noticeable differences in emergency readmission rates by unit with this varying between 0.3 to 1.7 times the overall UK and ROI rate.

Mortality in PICU: The vast majority of children admitted to PICU survived with 96.1% of admissions discharged alive in 2022. There was a slight increase in mortality from 3.3% of admissions in 2021 to 3.9% in 2022.

Unplanned extubation in PICU: The rate of unplanned extubations across the UK and ROI remained constant during 2020–2022, at 4.5 per 1,000 days of invasive ventilation, indicating that this was a relatively rare event within PICU. In 2022, seventeen PICUs (57%) met the NHS England target (PIC08a) of an unplanned extubation rate below 5.0 per 1000 ventilated days.

3. Healthcare improvement goals 2022 - 2025

Primary healthcare improvement goals for 2022 - 2025:

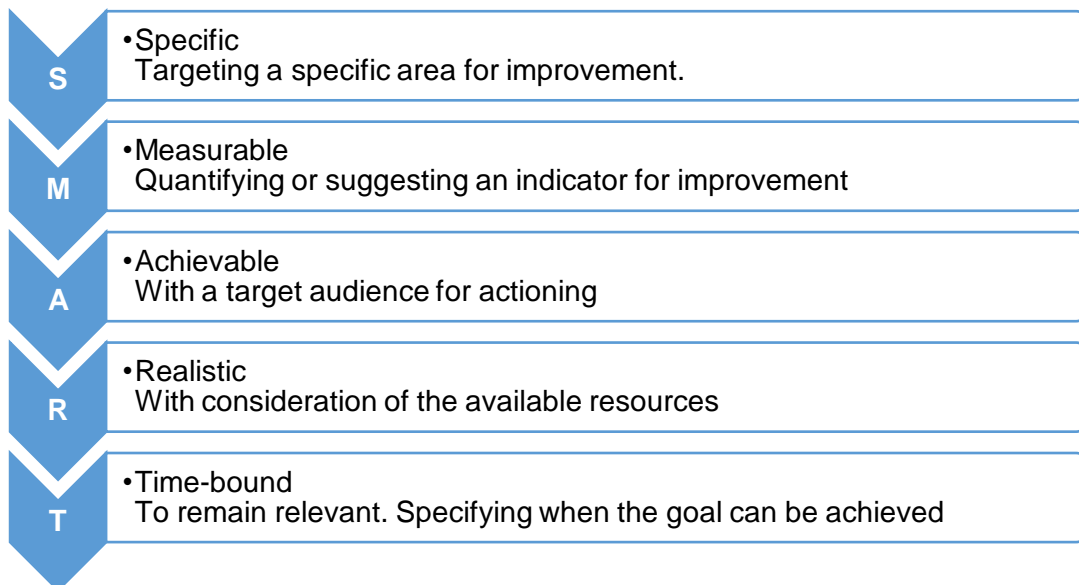
1. Supporting organisations to understand factors associated with emergency readmission to inform local quality improvement initiatives in order to reduce such events;
2. Reducing variation in specialised transport mobilisation times and access to PICU;
3. Reducing rates and variation in unplanned extubations;
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 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.

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

The improvement goals for 2022 – 2025 are supported by SMART objectives.



a. SMART objectives for healthcare improvement goals

PICANet leverages the routinely collected dataset to promote high-quality clinical practice, understand and reduce undesirable variation and improve patient outcomes. PICANet is an enabler for local QI projects performed by individual participating intensive care and transport organisations. Publication of real-time monitoring tools and periodic summary reports draws attention to instances of undesirable variation, particularly around the key metrics. Of note, existing data highlights good performance by many participating PICUs and transport organisations already.

The specific primary healthcare improvement goals for 2022 – 2025 are detailed below with information as to how they are measured, achievable, realistic and time-bound.

1. Supporting organisations to understand factors associated with emergency readmission to inform local quality improvement initiatives in order to reduce such events

Measurable: Rate of emergency readmissions of individual PICUs compared to the rates derived from whole dataset and focusing on specific PICUs such as Leeds General Infirmary given the ethnic diversity of the catchment population. Year-on-year change in rates of emergency readmissions.

Achievable: PICANet and PCC colleagues with a specific interest in this area.

PICUs: Individual participating PICUs will monitor their rates.

Realistic: PICANet have collaborated with Dr Emma Gray and other clinical academic colleagues here at the University of Leeds on the *Impact of epidemiology on unplanned readmission to English Paediatric Intensive Care Units* project (Data Access Request HQIP434 / PICANet P103). Publication of findings in a peer reviewed journal is anticipated in 2025. This will be disseminated to participating PICUs.

Time-bound: Publication in a peer reviewed journal anticipated early 2025.

PICUs: Ongoing continuously

2. Reducing variation in specialised transport mobilisation times and access to PICU

Measurable: Number and proportion of patients with mobilisation times <60 minutes among all patients requiring non-elective PIC transport and median, interquartile mobilisation times of transport organisation. The current target in England is to set off within 30 minutes after agreeing the child needs PICU.

Achievable: PICANet: Approved extended output project: Exploring reasons for variations in paediatric critical care transport team mobilisation time across the country.
Specialist Paediatric Critical Care Transport Services (SPTS): monitor mobilisation times.

Realistic: The question being investigated is: What are the reasons for variation in specialised transport team mobilisation times and access to paediatric intensive care units (PICU)? The goal will be to increase the proportion of patients with a mobilisation time <30 minutes for those requiring non-elective transport. Acknowledgement that there may be times when demand outstrips resources [e.g. during winter pressures].

Time-bound: PICANet: anticipated project completion date is 31 March 2025 and published publicly by mid-2025.

SPTS: Ongoing continuously

3. Reducing rates and variation in unplanned extubations

Measurable: Rate of unplanned extubation per 1,000 ventilated days.

Achievable: PICANet: Key Metric for Unplanned extubations in PICU

PICUs: Individual participating PICUs will monitor their rates.

Realistic: The 2021/22 NHS England Specialised Services PICU Quality Dashboard target is <5 per 1,000 ventilated days (PICO8a). The SoN Report 2023 reported against the NHS England target (PICO8a) for the first time which states an unplanned extubation rate below 5.0 per 1000 ventilated days. The data showed the target was clearly met overall during the reporting period and for each year of admission from 2020-2022 with 17/30 (57%) PICUs meeting the target in 2022.

Additionally, PICANet will facilitate monitoring of unexplained variation in rates between units/time periods and disseminate knowledge on good practice from units with low rates of unplanned extubation.

Time-bound: Ongoing.

The Key Metric for Unplanned extubations in PICU was first presented in the State of the Nation Report 2022 and it is included in all subsequent State of the Nation Reports with the NHS England target applied. Numbers and rates of unplanned extubations in PICU are refreshed and updated on the Data Dashboard each month.

4. Understanding and reducing variation of healthcare-associated infection in PICU

Measurable: Rate of central line associated blood stream infections and catheter associated urinary tract infection.

Achievable: PICANet and participating PICUs.

PICANet data linkage with the UK Health Security Agency (UKHSA) Infection in Critical Care Quality Improvement Programme (ICQIP).

Realistic: The Level 3 Admission dataset was updated on 03 May 2023 to include the pilot data collection of the new healthcare associated infection (HCAI) fields. Collection of the data became routine for all PICUs in January 2024. The new fields capture incidence of PICU-acquired Central Line Associated Bloodstream Infection (CLABSI) and PICU acquired Catheter Associated Urinary Tract Infection (CAUTI).

The goal is:

- For >75% of participating units to submit data in >90% of patients by the end of 2024; and
- To understand and develop realistic metrics as goals for QI based on submitted data, and perform case-study of units with consistently low rates of HCAs.

Once initial targets are met, continuous ongoing monitoring to understand variation between units and time periods.

ICQIP data linkage: the ICQIP data will be extremely valuable to the PCC community, the main benefit being the microbiology data. This additional insight is at no additional burden to the participating organisations.

A data sharing protocol (an addendum to the UKHSA and HQIP Framework Agreement) is in preparation during 2023 – 2024.

Time-bound: End of 2024 for initial data submission target mentioned above, and ongoing continuous monitoring subsequently.

Rates of HCAI data completion will be published during the April 2025 – March 2027 National Paediatric Critical Care Audit contract period and rates of infection will be reported in the SOTN report and PICANet dashboard at the point when data are sufficiently robust.

ICQIP data linkage: the linkage period will commence for CYP admitted from 01 January 2024. The frequency of the mutual data share is anticipated to be every six months as a minimum.

5. Understanding variation and predictors of length of stay and time of discharge

Measurable: Develop and report on a metric for proportion of patients with out-of-hours PICU discharge

Achievable: PICANet: working with the GIRFT team.

PICANet: Approved extended output request for the publication of an academic journal article with the working title, 'Variation in length of PICU stay in the United Kingdom and

Republic of Ireland' was approved in December 2023 and will contribute to this goal. Outputs will also inform local quality improvement work to reduce the variation in length of stay and help PICUs manage their current and future caseload.

Participating PICUs to monitor.

Realistic: This is a new metric proposed as a marker of unit stress in the GIRFT report on paediatric critical care. GIRFT's proposed goal is <10%, however, a period of monitoring and evaluating the factors influencing the metric will be required (e.g. discharge destination to another PICU or NICU).

Time-bound:

PICANet: publication of an academic journal article anticipated in 2025-26.

PICUs: Ongoing continuous

The secondary healthcare improvement goals are dependent on capacity and as such, their SMART objectives will be completed in full in due course to allow for the prioritisation of the five primary goals detailed above. The secondary goals will be reviewed on annual basis or more frequently where indicated to ensure that they remain a current priority and are feasible for PICANet to pursue, particularly where collaboration with paediatric critical care colleagues and projects is required. Secondary goals are progressing as detailed below as of Sep 2024:

(6) Understanding mental health outcomes among parents of children admitted to PICU

The overarching plan for secondary goal 6 is to develop a research project extending beyond this NPCCA contract involving a systematic review, data linkage and a questionnaire survey to understand parental mental health outcomes. This will be complemented by submission of a funding application in 2025 to link PICANet data to mental health hospital episode statistics (HES) to examine the impact of a PICU admission on psychosocial outcomes in comparison to the general population of children. This plan has been discussed with the PICANet Clinical Advisory Group, Steering Group and senior paediatric critical care researchers.

(7) Providing real-time reporting tools for units and transport services to stimulate local quality improvement strategies

Measurable: Indicators to include unplanned extubation in PICU, emergency readmissions to PICU within 48 hours and out-of-hours discharges

N.B. These are dependent on data and subject to change

Achievable: PICANet to publish real-time monitoring tools and periodic summary reports for individual units within the PICANet Web Database for participating units to review. The reports will draw attention to instances of undesirable variation.

To improve the reporting functionality of PICANet Web, we will provide an interactive tool to allow users to select and adjust parameters to view their caseload in real time, for

example a bar chart showing the total number of admissions by age and sex, by month. They will be able to plot up to two variables over a specified time span and then filter data on different categories e.g., by respiratory group. They can then download the data behind these charts, specifically the aggregated categories and counts rather than the raw unshaped data via the export page. These variables will include age, sex, ethnicity, diagnostic group, discharge status and destination, follow-up status, length of stay, admission type, care area admitted from, unplanned extubation, retrieval, transport mobilisation times, and transport outcome.

Realistic and time-bound: The PICANet team to schedule in the design and production of the monitoring tools and reports during 2024 as a priority following the scheduling/delivery of other deliverables and mandatory tasks for completion.

(8) Understanding and reducing variation in duration of organ support and long-term in-PICU stays

Measurable:

Achievable and realistic: PICANet: Approved extended output request for the publication of an academic journal article with the working title, 'Variation in length of PICU stay in the United Kingdom and Republic of Ireland' was approved in December 2023 and will contribute to this goal.

Further to this, a complementary data access request (HQIP451 / PICANet P094) has also been approved by HQIP for Dr Olugbenga Akinkugbe, supported by the PICANet co-PIs, for the following project, *Identifying trajectories of organ support, organ system dysfunction, and patterns of critical illness in children to improve prognostication and inform interventional studies*.

Time-bound: PICANet: publication of an academic journal article anticipated in 2025-26.

Project outputs of HQIP451 / PICANet P094 due by 31 December 2026.

4. Improvement methods

a. National

State of the Nation Report

PICANet produces a State of the Nation Report annually which sets out national recommendations, performance against key metrics, which includes in-paediatric critical care risk adjusted mortality and links to information on outcomes based on deprivation and ethnicity.

Alongside the Report, we also produce the following resources to support quality improvement: interactive figures with associated data tables (new for 2024, moving away from static tables and figures presented in Excel) which document transport, referrals and admissions activity within PICUs and online improvement resources.

PICANet Data Dashboard

PICANet publish online metric data publically outside of the annual report schedule. The [Data Dashboard](#) was first released alongside the first State of the Nation Report (March 2023) and is refreshed and updated on a monthly basis from November 2024 following a series of quarterly updates during 2024.

Paediatric Critical Care Society (PCCS) Quality Standards

PICANet audits the quality of care delivered against the Level 3 Paediatric Critical Care Society's (PCCS) Quality Standards for the Care of Critically Ill or Injured Children. The Quality Standards are intended to drive quality improvement in services.

PICANet is a core part of the development and refinement of PCCS Quality Standards and retains flexibility to respond quickly to requests to collect additional data items to align against new PIC standards.

National Clinical Audit Benchmarking Program

PICANet Key Metrics cover the whole patient pathway from initial referral to paediatric intensive care, specialist transport, and inpatient care. The key metrics are reported to the Care Quality Commission (CQC) annually to inform inspection planning of NHS and private hospitals in England and are publically available online along with each provider's performance the previous year, the national average and, where applicable, national standard.

Devolved Nations and Republic of Ireland

PICANet is commissioned by national bodies to collect and report on data from all of the devolved nations within the UK and also from the Republic of Ireland. Individual country-level data are reported in the PICANet State of the Nation Report, which is feedback to National Commissioners to identify any differences in care quality allowing for national and international comparison.

GIRFT

PICANet is working closely with the Getting it Right First Time (GIRFT) initiative through provision of PICU benchmarking data and supporting its interpretation and emerging key messages.

Following publication of the Paediatric Critical Care GIRFT Programme National Specialty Report in April 2022, PICANet have conducted a scoping exercise that determined which recommendations PICANet can or already supports/ delivers and identified areas requiring clarification or an implementation plan to work towards other recommendations. Members of the PICANet team are working with Professor Kevin Morris (GIRFT Clinical Lead for Paediatric Critical Care) and colleagues to prioritise our responses to the recommendations and ensure PICANet are included in communications with other key stakeholders to help achieve these. The PICANet Clinical Advisory Group will be consulted on the plans to meet recommendations.

PICANet are also involved in providing feedback to GIRFT about proposed future PCC indicators and ensuring we can capture and monitor them as required.

Specialised commissioning quality dashboards and data linkage and provision to reduce data collection burden

PICANet is the source for a number of metrics for the Paediatric Intensive Care Specialised Services Quality Dashboards. Units currently report these directly. However, to help reduce data burden and duplication and improve alignment, PICANet will review paediatric critical care data activity (sources and outputs) with a view to how it might be streamlined and produce a short paper outlining suggested actions and action owners by August 2025. This will be undertaken with the engagement of NHSE, ODNs, GIRFT and any other pertinent parties identified.

PICANet are working closely with the NHS and other government agencies, such as UKHSA to facilitate and improve data sharing processes in order to minimise the data collection burden on PICUs and create/ expand data linkages which might help to identify or further understand the main determinants of health outcomes, in particular deprivation and ethnicity.

PICANet's exemption from the National Data Opt-Out (England) for non-research (received July 2022) ensures that PICANet will continue to have 100% case ascertainment to achieve the greatest linkage possible.

PIM4 development

PICANet is collaborating internationally on the development of a new version of the Paediatric Index of Mortality (PIM-4) risk adjustment model which reflects the changing clinical demographics of patients receiving paediatric intensive care (e.g. those with long term conditions) to improve the accuracy of risk adjustment.

b. Regional

Specialist Paediatric Transport Services

Specialist Paediatric Transport Services work with a number of different PICUs within, and indeed between, regions.

Operational Delivery Networks

PICANet is working closely with NHS England to ensure that as regional Operational Delivery Networks (ODNs) are established, standards and variation in performance within ODNs are monitored. PICANet data will be essential for ODNs to model future activity levels and bed demand using the new Paediatric Critical Care capacity tool.

c. Local

PICANet are committed to providing enhanced and more frequent reporting of data quality for provider organisations to inform quality improvement. The following aspects of the healthcare improvement goals will require support from quality improvement experts, in how best to communicate:

- variation in specialised transport mobilisation times and access to PICU;
- variation and excess rates of unplanned extubations between PICUs;
- provision of real-time reporting tools for units and transport services to stimulate local quality improvement strategies; and
- variation in duration of organ support and long-term in-PICU stays.

Colleagues from the Clinical Advisory Group and Operational Delivery Networks, working alongside the senior PICANet team and HQIP QI lead, will provide the appropriate input. The support will identify the most effective ways of engaging with PICUs to understand significant variation in these metrics, identify a strategy to reduce this variation and work with PICANet team to monitor performance. This will include both quantitative and qualitative methodologies potentially drawing on ethnographic methods to identify areas for healthcare improvement.

Local downloads available

30 PICUs [all 23 English NHS units] and 13 Specialist Paediatric Transport Services [all 10 English NHS teams] are able to access real-time local data downloads and reporting to support and stimulate quality improvement discussions. See goal seven for plans to improve the reporting functionality of PICANet Web.

Online quality improvement resources

A [Quality Improvement Resources](#) page was launched on the PICANet website in March 2023 which signposts participating organisations to the resources available to them in relation to PICANet's key metrics, data available to them and data collection guidance.

Exemplars of effective healthcare improvements at local, regional, and national levels will be monitored, collated and summarised within case vignettes for sharing with all PIC service providers. These will be developed by aligning closely with the recommendations of the GIRFT Paediatric Critical Care National Report. Dissemination of case vignettes will be via the PICANet website and regular online seminars in conjunction with the PCCS. PICU clinical leads, ODN clinical leads and commissioners of specialist paediatric intensive care services will be alerted to website content and seminars.

Detection and management of potential outliers

PICANet monitors and reviews outcomes of treatment episodes. As part of this monitoring and review process we identify healthcare providers whose performance falls outside defined limits, referred to as outliers, which may reflect poorer or better performance. At present that risk-adjusted mortality is the only suitable performance indicator for outlier detection. The

PICANet Outlier Policy explores which performance indicators could be used to identify healthcare providers that are performing outside of an expected range and documents the process to be followed after a potential outlier has been identified.

RSPRT plots

In addition to the outlier analysis detailed above, providers are able to access PICU specific risk-adjusted mortality data in real time via risk-adjusted resetting probability ratio test (RSPRT) plots. RSPRT plots present PIM3-adjusted mortality data on a cumulative basis and provide an indication that the provider may be heading towards becoming an outlier (positive or negative). These plots have the advantage of being in real time, allowing any potential issues to be identified and addressed quickly, allowing for quality improvement interventions to prevent the potential identification of a PICU as an outlier. PICANet provide a prompt to providers on a quarterly basis for them to review their RSPRT plot. This prompt includes a quarterly RSPRT plot in addition to the plot available to PICUs in real time.

A QI resource for PICUs, [RSPRT Guidance for Units](#), was first published in October 2022 and has been updated annually. This document is PICANet's main 'cause for concern' guidance.

Mortality and morbidity review meetings

PICANet key metrics are actively used as part of regular Morbidity and Mortality Review meetings within Trusts to monitor performance, identify trends and implement changes to services where required.

Consultant appraisals

PICANet key metrics are used as part of consultants' annual appraisals to identify areas for development and learning.

Virtual validation visits

Virtual validation visits allow for an in depth review of data completion, case ascertainment and accuracy of data for each participating organisation. We aim for each organisation to have one virtual validation visit every 12- 18 months. They also provide an opportunity to discuss with units and transport teams the local use of the data and reporting tools available within PICANet to support quality improvement.

Validation reports

Validation reports are sent to each organisation on a six weekly basis to give an overview of data completeness and timelines. The reports indicate if they are meeting the PCCS standards, highlight the validation queries to be resolved and completion of customised data collection.

In autumn 2024, PICANet are piloting an interim data clean for Level 3 PCCUs and Transport Organisations. Tailored feedback on each organisation's data quality will be provided,

focusing on areas where they can have the biggest impact with the aim of reducing the burden at the annual clean.

d. Communications

A variety of tools and techniques are employed to ensure effective communications with stakeholders at all levels as is most appropriate for the audience. The PICANet Communications Strategy details the different audiences of PICANet communications and outputs and the methods of communication adopted for each.

e. Research

PICANet is responsive to the needs of external research. Our mission is to support high quality research to extend the available knowledge and investigate new innovations in PIC with a view to ultimately driving healthcare quality improvement, providing benefits to CYP in the areas of:

- paediatric intensive care;
- specific conditions affecting children and young people accessing PIC services (e.g. cardiac, neurological, infection, trauma);
- epidemiology of critical illness;
- public health
- clinical audit, service evaluation or research methodology.

PICANet applies the National Data Opt-Out (England) to the processing and/or release of data received from English PCC services for secondary uses, such as approved research projects, where the identifier fields require processing specifically for this use.

There are research projects in progress using PICANet and hospital episode statistics (HES) data focusing on the social determinants of health (PI: R Padmanaabhan, Co-I S Seaton). There are also plans to examine mental health outcomes over the lifecourse using linked HES data for children admitted to PICU as part of the Child Health Outcomes Research at Leeds (CHORAL) programme (PI: R Feltbower)

5. Evaluation

To ensure the effectiveness of the local quality improvement resources provided we will regularly monitor the use of outputs by PICUs and assess the impact of any changes implemented and overall quality improvement.

PICANet report on its progress against our improvement goals on an annual basis to the PICANet Steering Group. The Clinical Advisory Group are routinely informed of any extended output proposals or other data request applications which support the healthcare improvement goals.

The annual [State of the Nation Reports](#) and [Data Dashboard](#) monitor each of the key metrics. The PICANet team produce and review these reporting tools regularly with support from the PICANet Steering Group and Clinical Advisory Group. PPI feedback is incorporated via the Steering Group as a minimum.

Review of key metrics may lead to changes when it is considered to be statistically and clinically appropriate. The most recent example of this is the introduction of the unplanned extubations in PICU metric, first reported in the State of the Nation Report 2022.

Headline impact reporting is completed routinely as part of the HQIP commission of the National Paediatric Critical Care Audit for England and the annual Impact Report captures impact in these areas; national improvements in the quality and outcomes of care, locally stimulated quality improvement, system influence and contribution and public use and demand for the project.

6. Related documents

- PICANet Key Metric Definitions
- PICANet Level 3 Outlier Policy: PICANet detection and management of potential Level 3 Paediatric Critical Care Unit outliers
- RSPRT Guidance for Units
- PICANet Communications Strategy
- PICANet Social Media Policy
- PICANet Patient and Public Involvement Plan

For latest versions see the PICANet Policies webpage (<https://www.picanet.org.uk/about/policies/>) or ask a member of the team.