

# Paediatric Intensive Care Audit Network

## National Paediatric Critical Care Audit State of the Nation Report 2024



## Summary Report

Data Collection Period: January 2021 - December 2023  
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## Online resources

We have a range of [resources](#) to accompany this report online.

- An [Infographic](#) for a quick view of the report's key findings.
- Table and figures, which have undergone a major overhaul. The [new range of tables and charts](#) support the format of the PICANet data dashboard, and provide a clearer and more user-friendly way for PICANet's data to be interrogated.
- The [Appendices](#) contain background information and methodology about the audit.
- [Organisation Key](#)

We provide a range of [Quality Improvement Resources](#) for participating organisations and the [PICANet Data Dashboard](#) is refreshed and updated monthly.

The National Paediatric Critical Care Audit is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP), the NHS Wales Joint Commissioning Committee, NHS Lothian and NHS Greater Glasgow and Clyde, the Royal Belfast Hospital for Sick Children, the National Office of Clinical Audit (NOCA) for the Republic of Ireland and HCA Healthcare UK.

HQIP is led by a consortium of the Academy of Medical Royal Colleges, and the Royal College of Nursing. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage, and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies [www.hqip.org.uk/national-programmes](http://www.hqip.org.uk/national-programmes).

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## Introduction

The State of the Nation Report 2024 represents the 21<sup>st</sup> PICANet annual clinical audit report summarising paediatric critical care activity within designated Level 3 paediatric intensive care units (PICU) and Specialist Paediatric Critical Care Transport Services in the United Kingdom (UK) and Republic of Ireland (ROI) between 2021 and 2023. This year, alongside the information in this report, we have also released updates to our [Data Dashboard](#) and we have also changed the way we present the table and figures that accompany this report. We hope these additions will further support the work of the paediatric critical care community.

The report describes key metrics and outcomes related to transport and admission events in order to monitor the delivery and quality of care against agreed standards and evaluate clinical outcomes to inform national policy in paediatric critical care.

Five key metrics relevant to paediatric intensive care services are reported: case ascertainment including timeliness of data submission, transport mobilisation times, emergency readmissions within 48 hours of discharge, unplanned extubation in PICU and mortality in PICU.

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**With support from the PICANet Steering Group and Clinical Advisory Group**

## Key Messages



- There were 18,498 admissions to PICU in 2023; averaging around 50 per day.
- The long-standing trend of higher mortality for female admissions was no longer seen in 2022 and 2023.
- Mortality for children in PICU was 3.7% of 2023 admissions (an improvement from 3.9% in 2022).
- No units were identified as a statistical outlier for mortality, i.e. having a higher or lower mortality rate than we would have expected given the children they care for.
- Children living in highest areas of deprivation were more likely to be admitted to a PICU and children from least deprived areas were less likely to be admitted.
- The percentage of admissions from Asian and Black ethnicities increased in 2023 to 18.3% from 17.1% in 2022.
- Respiratory admissions were the most common primary diagnosis, making up just under 30% of all PICU admissions in 2023.



- In 2023, 77.3% of all admissions were submitted to PICANet within 2 months.
- Completeness of data on ethnic group improved between 2021 and 2023, from 88.3% to 90.4%.



- The number of non-elective transports to a PICU decreased from 4,503 in 2022 to 4,127 in 2023.
- In 2023, 67.7% of transport journeys were started within 30 minutes of a clinical decision. 4.3% of journeys were started more than three hours after a clinical decision.



- The percentage of emergency readmissions within 48 hours of discharge for the UK and ROI was close to the same across all three years, at 1.6% in 2023.
- Unplanned extubations for the UK and ROI remain stable overall and continue to be below five per 1,000 ventilated days consistently.

## National Recommendations

1. Investigate reasons for higher PICU admission rates in children from ethnic minority groups and the most deprived areas of England, Wales and Scotland.

**Action:** Paediatric Critical Care Society Study Group to identify this as a research priority, National Institute for Health and Care Research to fund the research. Collaborate and share research findings with NHS England's CYP Transformation and Health Inequalities Improvement teams for dissemination to Integrated Care Boards (ICBs) / networks as well as use in implementation of preventative pathways.

2. Investigate reasons for the differences in mortality between males and females and how this has changed over time.

**Action:** Paediatric Critical Care Society Study Group to identify this as a research priority, National Institute for Health and Care Research to fund the research. Collaborate and share research findings with NHS England's CYP Transformation and Health Inequalities Improvement teams for dissemination to ICBs / networks as well as use in implementation of preventative pathways.

3. Monitor changes over time in reasons for admission to PICU and the impact on paediatric critical care services following the planned roll out of the respiratory syncytial virus (RSV) vaccination programme.

**Action:** UK Health Security Agency (UKHSA) to analyse and monitor the impact of the RSV vaccination programme.

## Characteristics of children admitted to paediatric intensive care units

Table 1a: Admissions to PICU across the UK & Republic of Ireland by socio-demographic characteristics and year of admission

|                   |                     | 2021          |             | 2022          |             | 2023          |             | Total         |      |
|-------------------|---------------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|------|
|                   |                     | n             | %           | n             | %           | n             | %           | n             | %    |
| <b>Total</b>      |                     | <b>18,082</b> | <b>32.8</b> | <b>18,531</b> | <b>33.6</b> | <b>18,498</b> | <b>33.6</b> | <b>55,111</b> |      |
| Sex               | Male                | 10,177        | 56.3        | 10,508        | 56.7        | 10,366        | 56.0        | 31,051        | 56.3 |
|                   | Female              | 7,905         | 43.7        | 8,023         | 43.3        | 8,132         | 44.0        | 24,060        | 43.7 |
| Age group (years) | <1                  | 7,421         | 41.0        | 7,750         | 41.8        | 7,550         | 40.8        | 22,721        | 41.2 |
|                   | 1-4                 | 4,563         | 25.2        | 4,589         | 24.8        | 4,659         | 25.2        | 13,811        | 25.1 |
|                   | 5-10                | 2,943         | 16.3        | 3,088         | 16.6        | 3,193         | 17.3        | 9,224         | 16.7 |
|                   | 11-15               | 3,155         | 17.5        | 3,104         | 16.8        | 3,096         | 16.7        | 9,355         | 17.0 |
| Ethnicity         | Asian               | 2,155         | 11.9        | 2,186         | 11.8        | 2,297         | 12.4        | 6,638         | 12.0 |
|                   | Black               | 1,014         | 5.6         | 1,004         | 5.4         | 1,098         | 5.9         | 3,116         | 5.7  |
|                   | Mixed               | 663           | 3.7         | 685           | 3.7         | 688           | 3.7         | 2,036         | 3.7  |
|                   | White               | 11,398        | 63.0        | 11,516        | 62.1        | 11,489        | 62.1        | 34,403        | 62.4 |
|                   | Other               | 744           | 4.1         | 1,028         | 5.6         | 1,161         | 6.3         | 2,933         | 5.3  |
|                   | Unknown/not stated  | 2,108         | 11.7        | 2,112         | 11.4        | 1,765         | 9.6         | 5,985         | 10.9 |
| Deprivation       | 1 (most deprived)   | 4,671         | 29.8        | 4,777         | 29.9        | 4,744         | 29.7        | 14,192        | 29.8 |
|                   | 2                   | 3,413         | 21.8        | 3,614         | 22.6        | 3,622         | 22.6        | 10,649        | 22.4 |
|                   | 3                   | 2,904         | 18.5        | 2,847         | 17.8        | 2,748         | 17.2        | 8,499         | 17.8 |
|                   | 4                   | 2,305         | 14.7        | 2,393         | 15.0        | 2,393         | 15.0        | 7,091         | 14.9 |
|                   | 5 (least deprived)  | 2,281         | 14.6        | 2,202         | 13.8        | 2,335         | 14.6        | 6,818         | 14.3 |
|                   | Missing             | 101           | 0.6         | 143           | 0.9         | 140           | 0.9         | 384           | 0.8  |
| Country           | England (NHS)       | 14,034        | 77.6        | 14,287        | 77.1        | 14,258        | 77.1        | 42,579        | 77.3 |
|                   | England (non-NHS)   | 241           | 1.3         | 279           | 1.5         | 251           | 1.4         | 771           | 1.4  |
|                   | Wales               | 372           | 2.1         | 397           | 2.1         | 403           | 2.2         | 1,172         | 2.1  |
|                   | Scotland            | 1,375         | 7.6         | 1,509         | 8.2         | 1,500         | 8.1         | 4,384         | 7.9  |
|                   | Northern Ireland    | 443           | 2.5         | 425           | 2.3         | 395           | 2.1         | 1,263         | 2.3  |
|                   | Republic of Ireland | 1,617         | 8.9         | 1,634         | 8.8         | 1,691         | 9.1         | 4,942         | 9.0  |

Percentages are calculated within category by column, except for the total row. Deprivation scores were calculated for residents of England, Wales and Scotland admitted to a PICU in those nations. Deprivation score was based on the location of residence of the child using the Children in low-income measure (HMRC, 2014). Deprivation categories are equivalised to contain equal populations. Where a child's address was unknown these were added to the 'Missing' row. Ethnicity categories were defined using Office for National Statistics definitions (Ethnic group, national identity, and religion). 'Country' refers to country of admission rather than residence of the child.

Total paediatric intensive care unit (PICU) admissions remained the same in 2023 (18,498) compared to 2022 (18,531) (Table 1a). This was reflected across all nations except for Wales and ROI. There were more male admissions (56.3%) than female (43.7%) which remained consistent over all three years. 41.2% of all admissions were children under one year of age. The percentage of admissions in the 5-10 year age group increased from 16.3% in 2021 to 17.3% in 2023, whereas the percentage for 11-15 year olds decreased from 17.5% in 2021 to 16.7% in 2023. Nearly twice as many admissions came from the most deprived group compared to the least deprived.

The percentage of admissions recorded as White ethnicity was consistent between 2022 and 2023 at 62.1%, after falling slightly from 63.0% in 2021. The percentage of admissions from Asian, Black and Other ethnicities all increased in 2023 compared to 2022. This increase in the number of admissions in these ethnic groups (n=338) mirrored the reduction in unknown/not stated records (n=347). 9.6% of 2023 admissions had an unknown/not stated ethnicity, representing ongoing progress in reducing this percentage, down from 11.7% and 11.4% in 2021 and 2022 respectively.

**Table 1b: Admission rate per 10,000 population by ethnicity (England only)**

| Ethnicity    | Average annual admissions |      | Child population 2021 |      | Admissions/ 10,000 pop |
|--------------|---------------------------|------|-----------------------|------|------------------------|
|              | n                         | %    | n                     | %    |                        |
| Asian        | 2,032                     | 16.0 | 1,291,980             | 12.3 | 15.7                   |
| Black        | 958                       | 7.6  | 589,435               | 5.6  | 16.3                   |
| Mixed        | 600                       | 4.7  | 731,180               | 7.0  | 8.2                    |
| White        | 8,229                     | 64.9 | 7,591,975             | 72.4 | 10.8                   |
| Other        | 858                       | 6.8  | 278,505               | 2.7  | 30.8                   |
| <b>Total</b> | <b>12,678</b>             |      | <b>10,483,075</b>     |      | <b>12.1</b>            |

Admissions are for an average year in the three-year reporting period and exclude admissions that had ethnicity recorded as 'unknown' or 'not stated'. Population within each ethnic group is calculated using data from the 2021 census.

Table 1b shows that the majority of admissions to PICU in England were for children of White ethnic origin (64.9%), compared to 72.4% in the general childhood population. The number of admissions for White ethnic group was 10.8 per 10,000 population per year. This remains substantively lower than the Black and Asian admission rates of 16.3 and 15.7 per 10,000 respectively.

**Table 2: Total admissions by primary diagnostic group and elective status**

| Primary diagnosis     | Elective      |             | Non-elective  |             | 2021-2023     |      |
|-----------------------|---------------|-------------|---------------|-------------|---------------|------|
|                       | n             | %           | n             | %           | n             | %    |
| Respiratory           | 2,271         | 14.3        | 13,609        | 85.7        | 15,880        | 28.8 |
| Cardiovascular        | 9,210         | 65.1        | 4,948         | 34.9        | 14,158        | 25.7 |
| Neurological          | 1,170         | 18.0        | 5,324         | 82.0        | 6,494         | 11.8 |
| Other                 | 1,261         | 31.8        | 2,709         | 68.2        | 3,970         | 7.2  |
| Gastrointestinal      | 1,049         | 31.3        | 2,307         | 68.7        | 3,356         | 6.1  |
| Infection             | 206           | 7.5         | 2,527         | 92.5        | 2,733         | 5.0  |
| Endocrine / metabolic | 181           | 7.5         | 2,248         | 92.5        | 2,429         | 4.4  |
| Musculoskeletal       | 2,160         | 91.1        | 210           | 8.9         | 2,370         | 4.3  |
| Oncology              | 1,409         | 64.0        | 794           | 36.0        | 2,203         | 4.0  |
| Unknown               | 355           | 23.4        | 1,163         | 76.6        | 1,518         | 2.7  |
| <b>Total</b>          | <b>19,272</b> | <b>35.0</b> | <b>35,839</b> | <b>65.0</b> | <b>55,111</b> |      |

Diagnosis groups represented by 'Other' are: Blood / Lymphatic, Body wall and cavities, Trauma, Multisystem, and Other.

Overall, 65.0% of admissions to PICU between 2021 and 2023 were non-elective. The most common reason for admission to PICU was a respiratory diagnosis (28.8%); the majority of these admissions (85.7%) were non-elective. The majority of admissions (65.1%) to the second most common primary diagnosis group, cardiovascular, were elective. Of the remaining primary diagnosis groups, the majority were non-elective, with only musculoskeletal and oncology admissions being mainly elective.

## Mortality within Paediatric Intensive Care Units

**Table 3a: Percentage of deaths in PICU of all admissions, by country and year of admission**

| Country of admission | 2021       |            | 2022       |            | 2023       |            | 2021 - 2023  |            |
|----------------------|------------|------------|------------|------------|------------|------------|--------------|------------|
|                      | n          | %          | n          | %          | n          | %          | n            | %          |
| England              | 494        | 3.5        | 609        | 4.2        | 580        | 4.0        | 1,683        | 3.9        |
| Wales                | 15         | 4.0        | 14         | 3.5        | 12         | 3.0        | 41           | 3.5        |
| Scotland             | 23         | 1.7        | 32         | 2.1        | 41         | 2.7        | 96           | 2.2        |
| Northern Ireland     | 11         | 2.5        | 17         | 4.0        | 8          | 2.0        | 36           | 2.9        |
| Republic of Ireland  | 65         | 4.0        | 55         | 3.4        | 44         | 2.6        | 164          | 3.3        |
| <b>Total</b>         | <b>608</b> | <b>3.4</b> | <b>727</b> | <b>3.9</b> | <b>685</b> | <b>3.7</b> | <b>2,020</b> | <b>3.7</b> |

Overall, 96.3% of all admissions to PICU were discharged alive (Table 3a). The percentage of admissions resulting in death was 3.7% in 2023, which was a reduction from 3.9% in 2022, but a slight increase from 3.4% in 2021.

**Table 3b: Percentage of deaths in PICU of all admissions, by sex and year of admission**

| Sex    | 2021 |     | 2022 |     | 2023 |     | 2021 - 2023 |     |
|--------|------|-----|------|-----|------|-----|-------------|-----|
|        | n    | %   | n    | %   | n    | %   | n           | %   |
| Male   | 328  | 3.2 | 424  | 4.0 | 387  | 3.7 | 1,139       | 3.7 |
| Female | 280  | 3.5 | 303  | 3.8 | 298  | 3.7 | 881         | 3.7 |

Table 3b shows that the long-standing feature of higher in-PICU mortality among female admissions, whilst evident in 2021, was not continued into 2022 and 2023. This is contrary to previous epidemiological evidence which has shown a small but clear excess in female in-PICU mortality compared to males [1]. The overall mortality rate in 2023 was 3.7% for both sexes.

**Table 3c: Percentage of deaths in PICUs of all children's deaths in the population: UK and Republic of Ireland**

| Country of admission | 2021                 | 2022                 | 2023                 | 2021 - 2023            |
|----------------------|----------------------|----------------------|----------------------|------------------------|
| UK                   | 14.2% (n=543)        | 17.4% (n=672)        | 16.6% (n=641)        | 16.1% (n=1,856)        |
| Republic of Ireland  | 24.3% (n=65)         | 21.1% (n=55)         | 18.1% (n=44)         | 21.3% (n=164)          |
| <b>Total</b>         | <b>14.9% (n=608)</b> | <b>17.7% (n=727)</b> | <b>16.6% (n=685)</b> | <b>16.4% (n=2,020)</b> |

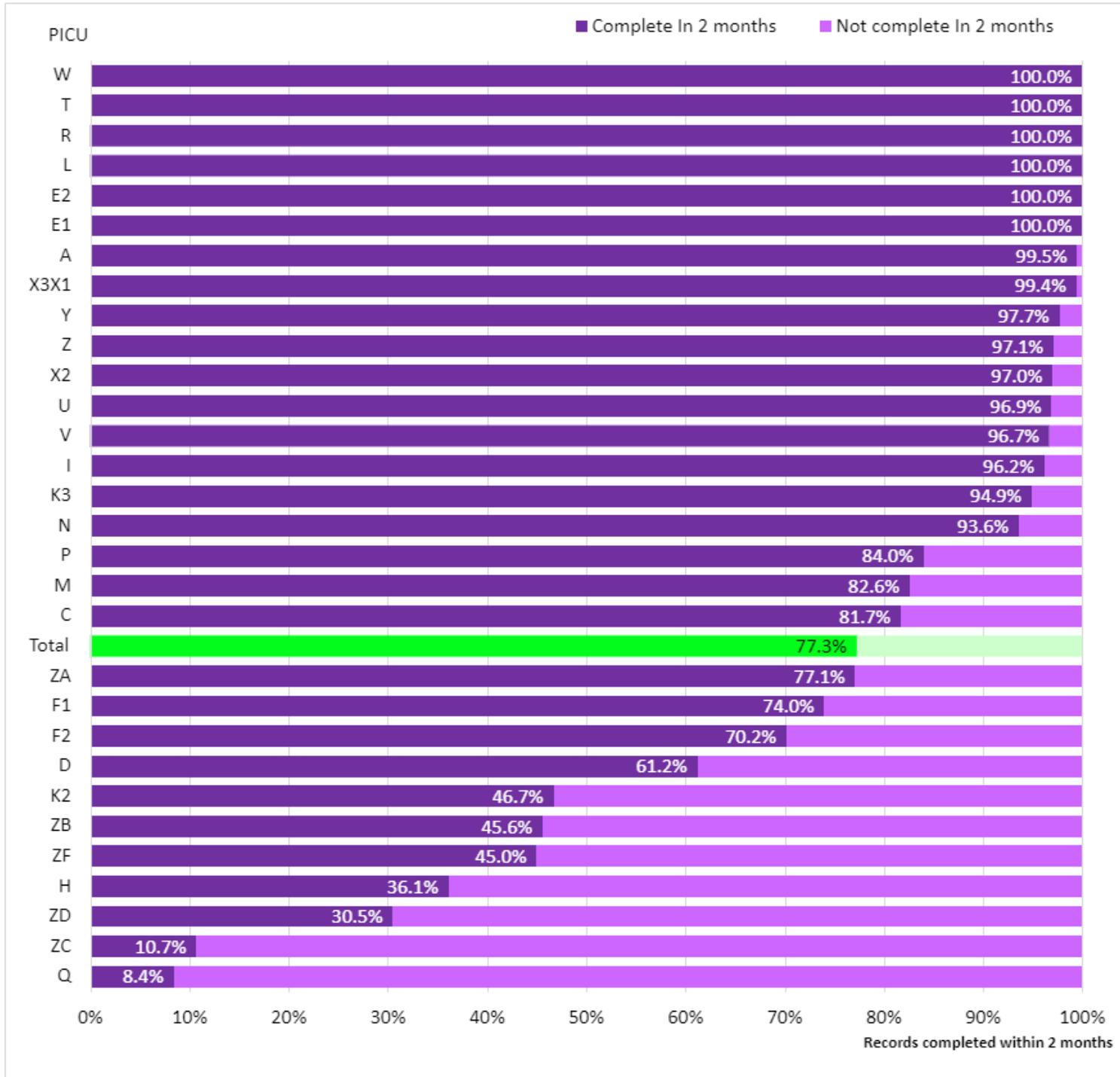
2023 data for children's deaths in the general population were not available for England and Wales at the time of production. For these nations, the 2022 data were used as the population death data in 2023. In 2021, the Republic of Ireland recorded year of death. In 2022 and 2023, these were year of registration of death.

A reduction in mortality was seen in all UK nations and the ROI between 2022 and 2023 except in Scotland where the percentage increased throughout the reporting period from 1.7% to 2.7%, albeit based on a small number of deaths. 16.4% of all childhood deaths occurred within a PICU, with the UK having a lower percentage than the ROI (Table 3c).

## Key Metrics

Metric 1: Case ascertainment and timeliness of data submission for 2023 admissions

**Figure 1: Percentage of admission records completed within two months of discharge from PICU, 2023: All units**

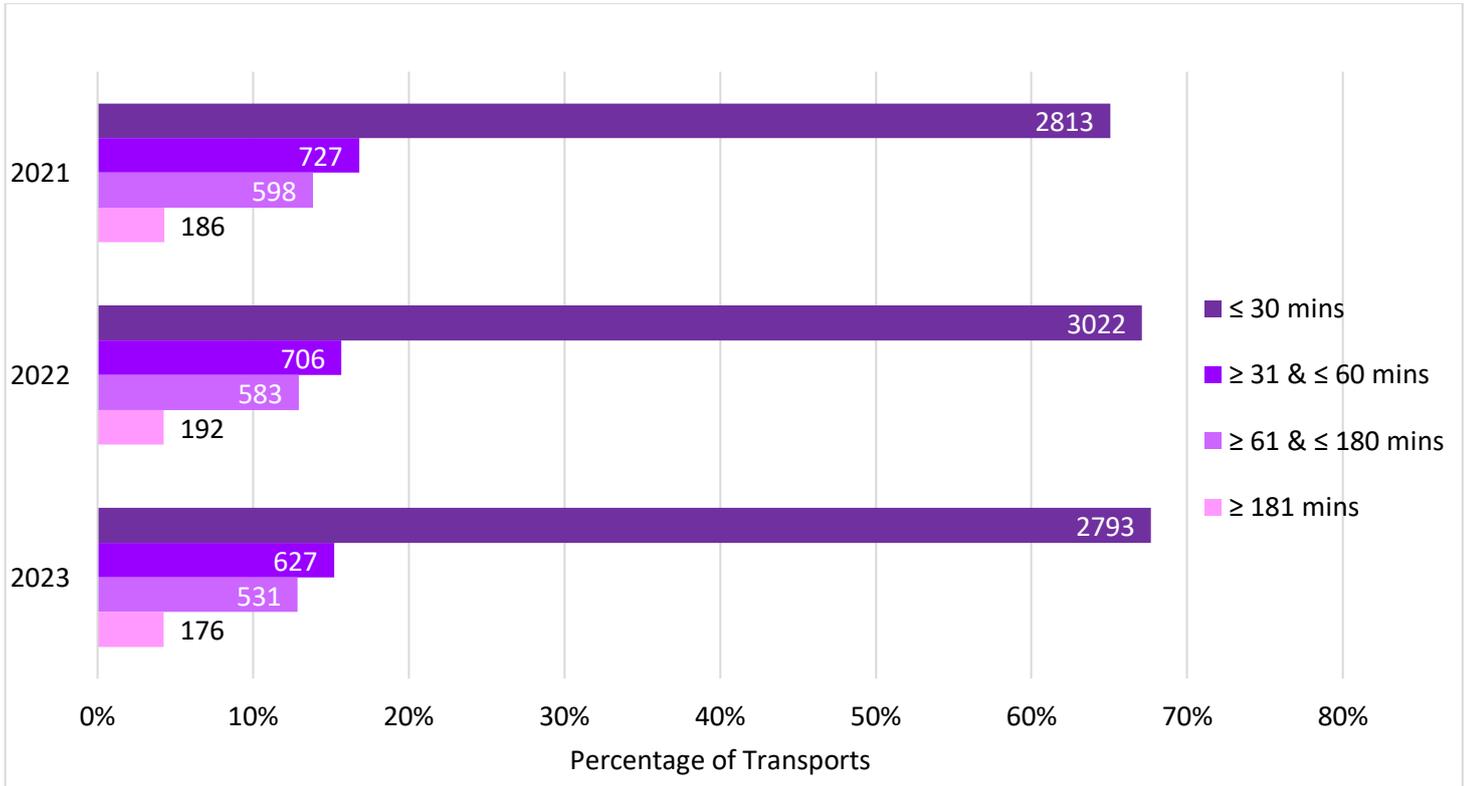


### [Organisation Key](#)

The overall percentage of records completed within two months of discharge in 2023 was 77.3%. Nineteen PICUs (out of 30 in total) exceeded this average. Of the 11 PICUs below the average, seven PICUs were unable to complete 50% of their records within two months of discharge.

## Metric 2: Transport team mobilisation times

**Figure 2: Number of non-elective transports to PICU by time to mobilisation: UK and Republic of Ireland**



The number of non-elective transports undertaken by a paediatric critical care transport team to a PICU was 4,127 in 2023, lower than those undertaken in 2021 (4,324) and 2022 (4,503). Of the transports which took place in 2023, 67.7% began within 30 minutes of the clinical decision being made – an improvement on 2021 (65.1%) and 2022 (67.1%). In all three years combined, 4.3% of all transports began more than three hours from the decision to transport the child to PICU.

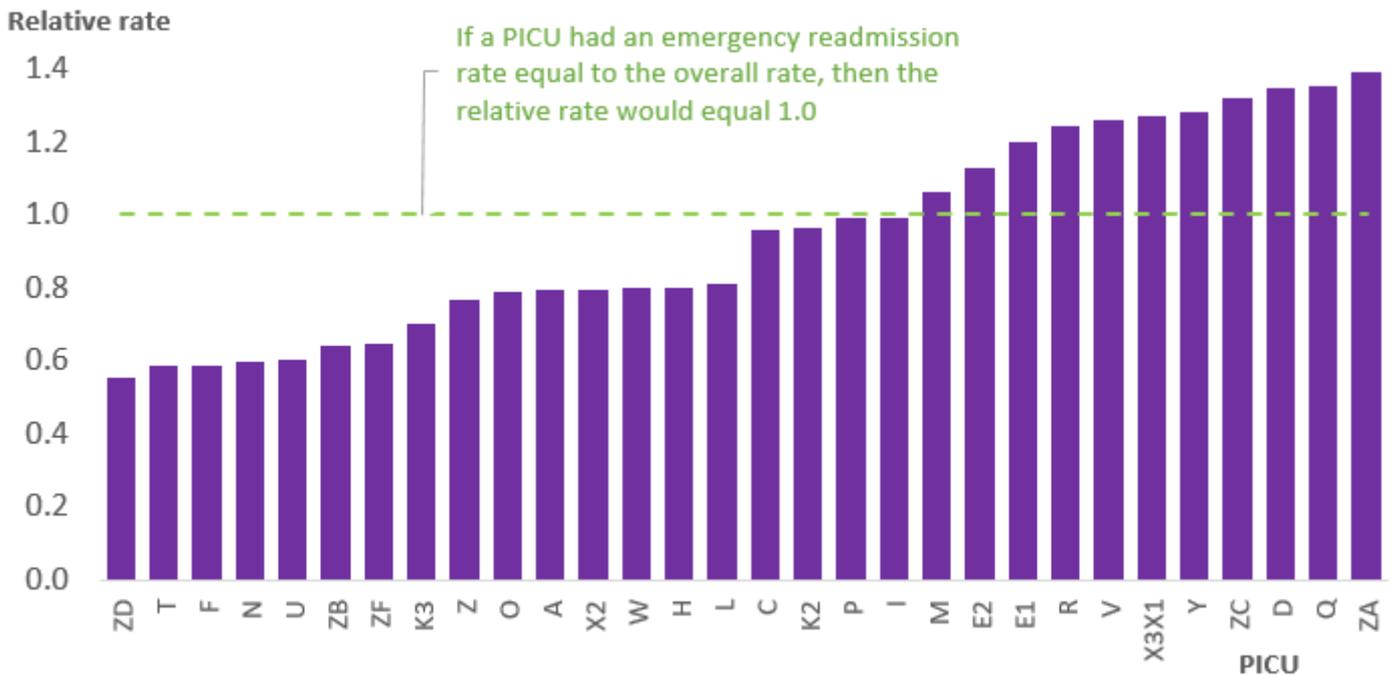
### Metric 3: Emergency readmissions within 48 hours

**Table 4: Emergency readmission within 48 hours of discharge by country of admission<sup>1</sup>**

| Country of admission | 2021       |            | 2022       |            | 2023       |            | 2021 - 2023 |            |
|----------------------|------------|------------|------------|------------|------------|------------|-------------|------------|
|                      | n          | %          | n          | %          | n          | %          | n           | %          |
| England              | 226        | 1.6        | 221        | 1.5        | 224        | 1.5        | 671         | 1.5        |
| Wales                | 5          | 1.3        | 5          | 1.3        | 8          | 2.0        | 18          | 1.5        |
| Scotland             | 33         | 2.4        | 31         | 2.1        | 30         | 2.0        | 94          | 2.1        |
| Northern Ireland     | 6          | 1.4        | 3          | 0.7        | 4          | 1.0        | 13          | 1.0        |
| Republic of Ireland  | 30         | 1.9        | 25         | 1.5        | 30         | 1.8        | 85          | 1.7        |
| <b>Total</b>         | <b>300</b> | <b>1.7</b> | <b>285</b> | <b>1.5</b> | <b>296</b> | <b>1.6</b> | <b>881</b>  | <b>1.6</b> |

Overall emergency readmissions to the same PICU within 48 hours of discharge for the UK and ROI in 2023 comprised 1.6% of all admissions, and represented a similar percentage compared to the two preceding years (Table 4). In 2023 the percentage of emergency readmissions was highest in Scotland and Wales, although in the case of Scotland they appeared to be falling slightly over time. The 2023 rate was lowest in Northern Ireland, albeit based on a small number of events.

**Figure 3: Relative rate of emergency readmission within 48 hours of discharge by PICU, 2021-2023**



[Organisation Key](#)

Figure 3 shows the relative rate of emergency readmissions by unit, which is calculated as the rate for each unit divided by the overall rate of 1.6. The relative rate of emergency readmissions ranged from 0.5 (lowest) to 1.4 (highest).

<sup>1</sup> Emergency readmissions are not adjusted for case-mix due to small numbers of events preventing meaningful adjustment.

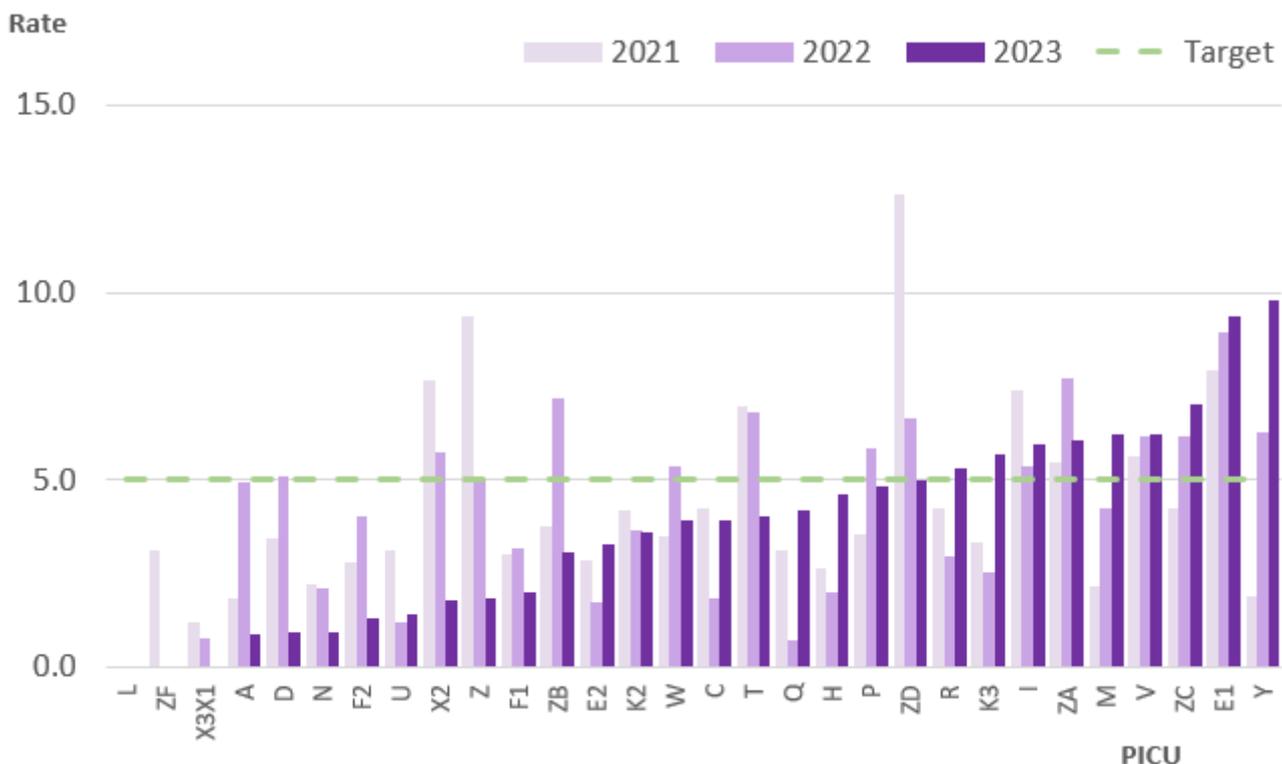
## Metric 4: Unplanned extubations in PICU

**Table 5: Unplanned extubation rates per 1,000 days of invasive ventilation by country and year**

| Country of admission | 2021       |            | 2022       |            | 2023       |            | 2021 - 2023 |            |
|----------------------|------------|------------|------------|------------|------------|------------|-------------|------------|
|                      | n          | rate       | n          | rate       | n          | rate       | n           | rate       |
| England              | 220        | 4.4        | 235        | 4.4        | 216        | 4.1        | 671         | 4.3        |
| Wales                | 3          | 4.4        | 2          | 1.8        | 6          | 3.9        | 11          | 3.3        |
| Scotland             | 16         | 4.7        | 26         | 7.4        | 23         | 7.0        | 65          | 6.3        |
| Northern Ireland     | 5          | 3.8        | 9          | 7.2        | 3          | 3.1        | 17          | 4.8        |
| Republic of Ireland  | 31         | 6.1        | 31         | 6.3        | 38         | 6.5        | 100         | 6.3        |
| <b>Total</b>         | <b>275</b> | <b>4.6</b> | <b>303</b> | <b>4.7</b> | <b>286</b> | <b>4.4</b> | <b>864</b>  | <b>4.6</b> |

The overall three-year rate of unplanned extubation was 4.6 per 1,000 days of invasive ventilation (Table 5). In 2023 this was 4.4 and mirrored rates from the two previous years of 4.6 in 2021 and 4.7 in 2022, remaining below the standard of five per 1,000. In 2023, higher rates than average were evident in Scotland (7.0) and ROI (6.5). For the ROI, the rate increased slightly in each year of the reporting period.

**Figure 4: Unplanned extubation rates per 1,000 days of invasive ventilation by PICU, all admissions, 2021-2023**

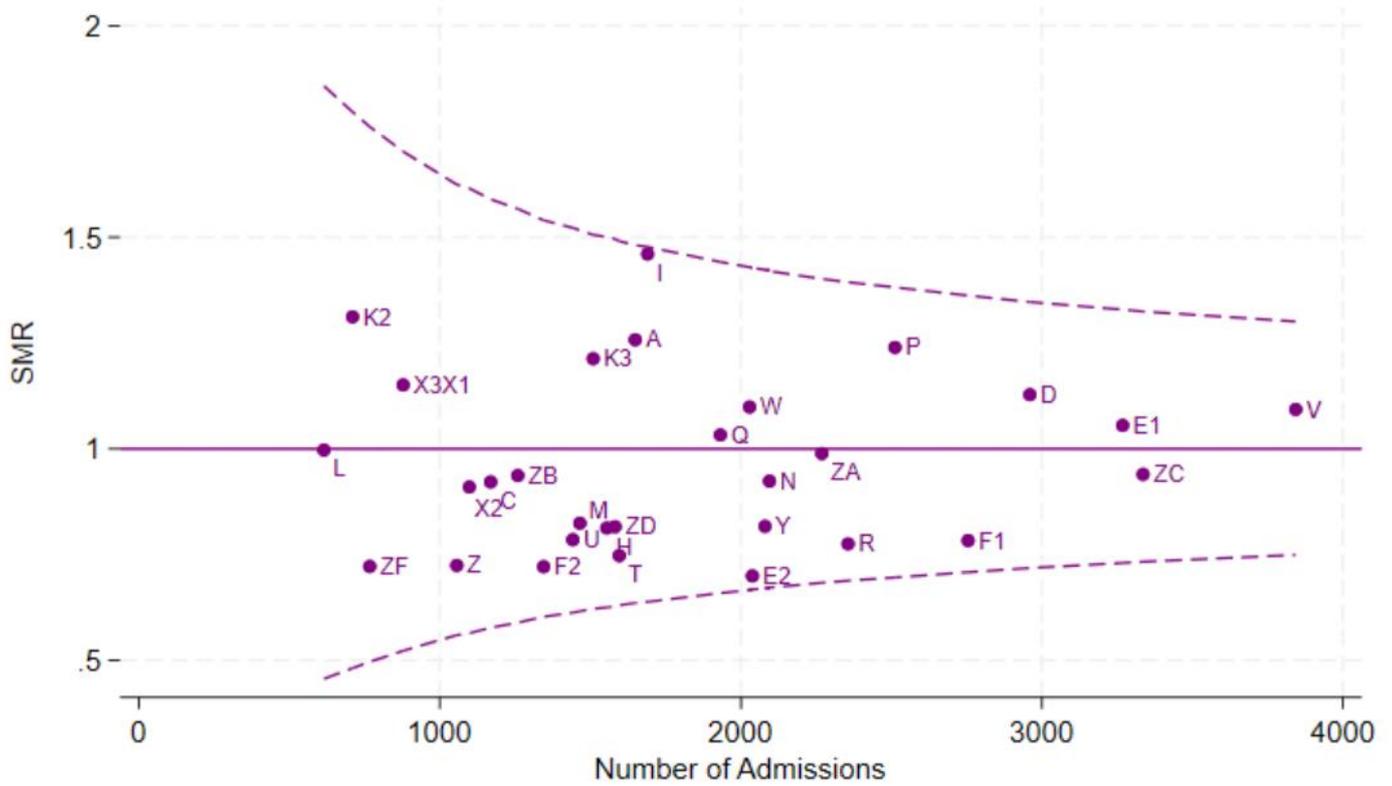


[Organisation Key](#)

Figure 4 shows that in 2023, 21 out of 30 units (70.0%) met the NHS England target (PIC08a) of a rate of unplanned extubations below 5.0 per 1,000 ventilated days.

Metric 5: Risk adjusted in-PICU mortality

Figure 5: Risk adjusted Standardised Mortality Ratio (SMR) by health organisation, 2021 - 2023



**Key**

— SMR = 1 (expected deaths are equal to observed deaths)

- - - - - 99.9% control limits<sup>2</sup>

[Organisation Key](#)

No units were identified as having a higher or lower mortality rate ("statistical outlier") than we would have expected given the children they cared for over the three-year reporting period. This is demonstrated in Figure 5, where none of the unit-specific SMR estimates were above the upper control chart limit or below the lower control limit.

<sup>2</sup> For more information please see the [PICANet Outlier Policy](#).

## Organisation Key

|             |  |
|-------------|--|
| <b>A</b>    | Addenbrooke's Hospital, Cambridge  |
| <b>C</b>    | Noah's Ark Children's Hospital for Wales, Cardiff  |
| <b>D</b>    | Royal Manchester Children's Hospital   |
| <b>E1</b>   | Great Ormond Street Hospital, London (PICU/NICU)   |
| <b>E2</b>   | Great Ormond Street Hospital, London (CICU)  |
| <b>F1</b>   | Evelina London Children's Hospital (previously F)  |
| <b>F2</b>   | Royal Brompton Hospital, London (previously O)   |
| <b>H</b>    | King's College Hospital, London  |
| <b>I</b>    | Leeds Children's Hospital  |
| <b>K2</b>   | Freeman Hospital, Newcastle upon Tyne  |
| <b>K3</b>   | Great North Children's Hospital, Newcastle upon Tyne   |
| <b>L</b>    | Royal Stoke University Hospital  |
| <b>M</b>    | Nottingham Children's Hospital, Queens Medical Centre, Nottingham  |
| <b>N</b>    | John Radcliffe Hospital, Oxford  |
| <b>P</b>    | Alder Hey Children's Hospital, Liverpool   |
| <b>Q</b>    | Sheffield Children's Hospital  |
| <b>R</b>    | Southampton Children's Hospital  |
| <b>T</b>    | St George's Hospital, London   |
| <b>U</b>    | St Mary's Hospital, London   |
| <b>V</b>    | Birmingham Children's Hospital   |
| <b>W</b>    | Bristol Royal Hospital for Children  |
| <b>X2</b>   | Leicester Royal Infirmary CICU   |
| <b>X3X1</b> | Leicester Royal Infirmary CPICU (previously known as Glenfield Hospital, Leicester)                      |
| <b>Y</b>    | Royal Hospital for Children and Young People, Edinburgh  |
| <b>Z</b>    | The Royal London Hospital  |
| <b>ZA</b>   | Royal Hospital for Children, Glasgow   |
| <b>ZB</b>   | Royal Belfast Hospital for Sick Children   |
| <b>ZC</b>   | Children's Health, Ireland, Crumlin formerly Our Lady's Children's Hospital, Crumlin, Dublin             |
| <b>ZD</b>   | Children's Health, Ireland, Temple Street, formerly Temple Street Children's University Hospital, Dublin |
| <b>ZF</b>   | The Portland Hospital, London  |
| <b>T001</b> | Children's Acute Transport Service (CATS)  |
| <b>T002</b> | Embrace: Yorkshire & Humber Infant & Children's Transport Service  |
| <b>T003</b> | North West and North Wales Paediatric Transport Service (NWTS)   |
| <b>T004</b> | South Thames Retrieval Service (STRS)  |
| <b>T005</b> | KIDS Intensive Care and Decision Support   |
| <b>T008</b> | Southampton Oxford Retrieval Team (SORT)   |
| <b>T010</b> | Northern Ireland Specialist Transport and Retrieval (NISTAR) Paediatric                                  |
| <b>T020</b> | Scotland Specialist Transport and Retrieval (ScotSTAR)   |
| <b>T022</b> | Irish Paediatric Acute Transport Service (IPATS)   |
| <b>T024</b> | Wales and West Acute Transport for Children (WATCH)  |
| <b>T026</b> | North East Children's Transport and Retrieval Service (NECTAR)   |
| <b>T027</b> | Children's Medical Emergency Transport Service (CoMET)   |
| <b>T028</b> | <i>Heart Link ECMO Children's Service (included in Tables &amp; Figures only)</i>                        |
| <b>T032</b> | Paediatric and Neonatal Decision Support and Retrieval Service (PaNDR)                                   |

## References

1. Almassawi O, Friend A, Palla L, Feltbower RG, Sardo-Infiri S, O'Brien S, Harron K, Nadel S, Saunders P and De Stavola B (2023) Is there a sex difference in mortality rates in paediatric intensive care units?: a systematic review. *Front. Pediatr.* 11:1225684. doi: [10.3389/fped.2023.1225684](https://doi.org/10.3389/fped.2023.1225684)

**Celebrating 21 years of data**  
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