The Irish Paediatric Critical Care Audit (IPCCA) was established by the National Office of Clinical Audit (NOCA) and reports on the care of patients in paediatric intensive care units (PICUs). NOCA works with the Paediatric Intensive Care Audit Network (PICANet) in the UK to collect and monitor the data. The audit also reports on paediatric patients admitted to adult ICUs, using data from the Irish National ICU Audit.

In Ireland, there are two dedicated paediatric intensive care units currently located in Dublin at Children’s Health Ireland (CHI) at Crumlin, which has 23 beds and Children’s Health Ireland (CHI) at Temple Street, which has 9 beds. These units accept patients from all counties in Ireland. Paediatric patients are defined as children aged under 16 years.

In 2020, 68 children aged under 16 years were admitted to adult ICUs in Ireland. 40% were admitted to the ICU in Galway and 16% to the ICU in Cork.

52% of the children admitted were babies aged less than one year. 72% were aged less than 5 years.

CHI at Crumlin had the third highest number of PICU admissions of all units in the UK and Ireland for 2020.

96% survival rate

41% admitted following surgery

1.7% of patients were readmitted to PICU within 48 hours of discharge in the Republic of Ireland. Low readmission rates are generally accepted as an indicator of good quality of care.

1399 admissions in 2020*

* Includes 22 patients aged 16 years or over admitted to paediatric intensive care units in Ireland during 2020.
**CHI AT CRUMLIN**

- **85%**
  - The recommended limit for Bed occupancy is 85%.
- **5.5**
  - The recommended standard is 5.5 whole-time equivalent (WTE) staff nurses per critical care bed. Consistency in staffing allows the beds to remain open.

- **48%**
  - 48% of admissions to PICU were unplanned (i.e. emergency) admissions and 31% were transferred in from other hospitals.
- **49%**
  - 49% of admissions were patients with problems relating to the heart.
- **18%**
  - 18% of admissions were patients with problems relating to the respiratory system or breathing.
- **88%**
  - On average 88% of beds were occupied in 2020.
- **21%**
  - 21% of admissions were babies under one month old and 32% required surgery.
- **2.75**
  - 2.75 days median length of stay.
- **5.8**
  - Average of 5.8 whole time equivalent staff nurses per critical care bed.

**CHI AT TEMPLE STREET**

- **66%**
  - 66% of admissions to PICU were unplanned and 62% were transferred in from other hospitals.
- **24%**
  - 24% of admissions were patients with problems relating to the nervous system or the brain.
- **24%**
  - 24% of admissions were patients with problems relating to the respiratory system or breathing.
- **82%**
  - On average 82% of beds were occupied in 2020.
- **17%**
  - 17% of admissions were babies under one month old and 15% required surgery.
- **1.74**
  - 1.74 days median length of stay.
- **5.4**
  - Average of 5.4 whole time equivalent staff nurses per critical care bed.

**KEY FINDINGS**

*Irish Paediatric Critical Care Audit 2020*

- **63%**
  - 63% of patients admitted to Irish PICUs received help breathing with a tube in their throat connected to a machine called a ventilator and 70% of patients received vasoactive medication. Use of these measures can be a potentially lifesaving intervention.
- **82**
  - There were 82 admissions to PICU during 2020–2022 for children with COVID-19. The median age was 4 years, median length of stay was 3 days and 40% required a machine called a ventilator to help them breathe. There was no COVID-19 related deaths during this time.
- **41**
  - There were 41 admissions to PICU during 2020–2022 for children with Paediatric Inflammatory Multisystem Syndrome (PIMS-TS). This illness is very rare and can occur after COVID-19. Signs and symptoms include fever, tummy pain, vomiting, diarrhoea, rash, red eyes and swollen lips or tongue.

- **71%**
  - In 2020, 71% of Irish Paediatric Acute Transport Service (IPATS) journeys to retrieve patients requiring urgent transfer from another hospital to a PICU started within the recommended one hour.
- **25**
**KEY RECOMMENDATIONS**

<table>
<thead>
<tr>
<th><strong>Recommendation</strong></th>
<th><strong>Details</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A National Respiratory Paediatric Extracorporeal Life Support (ECLS) Programme</strong></td>
<td>Should be progressed in Children’s Health Ireland. A number of children had to be transferred abroad for this treatment, as there is no formally funded and resourced paediatric respiratory ECLS programme in the ROI. Respiratory ECLS provides life-saving treatment for infants and children with very severe lung failure.</td>
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<tr>
<td><strong>Paediatric Critical Care Units</strong></td>
<td>Should monitor and review their out of hours and delayed discharges from the unit as this is not best practice and should be avoided as much as possible. During the evening and night time there is reduced medical and nursing staff availability on the wards, and it is less likely that a parent/guardian will be present to accompany the child if the discharge occurs during the night.</td>
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<tr>
<td><strong>Adult ICUs</strong></td>
<td>Caring for children should ensure the recommendations outlined in the National Model of Care for Paediatric Critical Care are followed. Paediatric and neonatal intensive care should only be provided in designated units staffed by doctors and nurses with specialized training in paediatric critical care.</td>
</tr>
<tr>
<td><strong>Develop Irish Paediatric Critical Care Audit data collection</strong></td>
<td>Reporting to accurately reflect the complexity and severity of illness of the Irish PCCU patient population.</td>
</tr>
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<td><strong>Paediatric Critical Care Units</strong></td>
<td>Should improve the timeliness of audit data submission to meet quality standards. Hospital management should ensure there is dedicated resourcing available.</td>
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**A message from our Patient & Public Interest Representative**

In 2022, I became a Public and Patient Interest Representative for NOCA, working on the Irish Paediatric Critical Care Audit. I am also actively involved with Heart Children Ireland and the Irish Heart Foundation.

I am Mammy to Jacob, Isaac and Anna, all of whom had surgeries in CHI at Crumlin for various reasons. I had open-heart surgery in Crumlin myself in the 1980’s. Anna is my youngest child and was born with critical Congenital Heart Disease so she spent long periods in the Paediatric Critical Care Unit in Crumlin during the first year of her life.

I hope by sharing Anna’s story and our family’s experience of ICU, that we can add a human dimension to the statistics discussed in this audit. The data in this report are all about amazingly brave and vulnerable children who pass through ICU. It is so important that clinicians hear from whom they are helping and are reminded why they do their invaluable work and maintain the highest standards.

Fiona Fallon,
Patient and Public Interest Representative,
Irish Paediatric Critical Care Audit