1 METHODS

Study advisory group

A multidisciplinary group of clinicians was convened to steer the study from design to completion, define the objectives of the study and advise on the key questions. The group comprised lay and parent carer representatives along with healthcare professionals in paediatric and adult surgery (generalists and specialists), anaesthetics (generalists and specialists), neonatology, intensive care, radiology, nursing and allied healthcare.

Study aims and objectives

To identify good practice and remediable factors in the delivery of care provided to children and young people aged 0-18th birthday who undergo emergency (non-elective) procedures under anaesthetic or sedation. The areas of focus were:

- Classification of intervention
- Protocols, pathways and networks of care
- Transfer arrangements
- The arrival and assessment process
- Staffing arrangements, including the availability of a manager or co-ordinator for emergency surgery in children and young people
- The decision-making process
- Emergency (CEPOD) theatre access, including time to intervention

Hospital participation

All hospital providers in England, Wales and Northern Ireland where patients might undergo emergency (non-elective) procedures were included.

Study population and case ascertainment

Inclusion criteria

All children and young people aged 0–18th birthday who underwent an emergency (non-elective) procedure under anaesthetic or sedation were identified between:

- Time frame 1 – from 00:00 Monday 17th June to 23:59 Sunday 30th June 2024
- Time frame 2 – from 00:00 Monday 12th February to 23:59 Sunday 25th February 2024

Patients were identified across two-time frames to account for seasonal variation.

Exclusion criteria

Children and young people who died prior to arrival in theatre/the procedure area.

Identification of a sample population

Two pre-set spreadsheets were provided to every local reporter to identify all patients meeting the study criteria during the two defined time frames, from which a maximum of seven patients from each hospital were randomly sampled for inclusion.

Data collection - peer review

Organisational questionnaire

A questionnaire was sent to all hospitals participating in the study to collect hospital-level data around the organisation of emergency and surgical services.

Surgical (operator) and anaesthetic questionnaires

Questionnaires were sent to the clinician who undertook the procedure and the anaesthetist for the patient at the time of the procedure.

Transfer questionnaire

A questionnaire was sent to the clinician responsible for the care of the patient prior to transfer to the hospital where the procedure was undertaken, where applicable.

Real-time clinician survey

An anonymous real-time survey was made available for all hospital staff involved in undertaking emergency procedures to gather 'real-time' data on delays to surgery between Monday 17th June 00:00 – Sunday 30th June 23:59 2024.

Anonymous online clinician survey

An anonymous online survey was made available for all clinicians involved in undertaking emergency procedures to ascertain how confident and competent they are in providing emergency intervention for children and young people.

Case notes

Copies of the case notes were requested for the included admission of each patient for peer review. A list detailing the elements of the case notes that were required was provided to the NCEPOD local reporters that collated the notes from each participating trust/health board.

Peer review of the case notes and questionnaire data

A multidisciplinary group of case reviewers comprising paediatric and adult surgeons (general and specialist), anaesthetists (general and specialist), emergency medicine clinicians, nurses, paediatricians, radiologists, critical care clinicians and operating department practitioners were recruited to peer review the case notes and questionnaires.

Using a semi-structured electronic questionnaire, each set of case notes was reviewed by at least one reviewer within a multidisciplinary meeting. A discussion, chaired by an NCEPOD clinical co-ordinator, took place at regular intervals, allowing each reviewer to summarise their cases and ask for opinions from other specialties or raise aspects of the case for further discussion.

Data analysis

Following cleaning of the quantitative data, descriptive data summaries were produced. Qualitative data collected from the case reviewers' opinions and free-text answers in the clinician questionnaires were coded, where applicable, according to content to allow quantitative analysis. As the methodology provides a snapshot of care over a set point in time, with data collected from several sources to build a national picture, denominators will change depending on the data source, but each source is referenced throughout the document. This deep dive uses

a qualitative method of peer review, and anonymised case studies have been used throughout this report to illustrate themes. The sampling method of this enquiry, unlike an audit, means that data cannot be displayed at a hospital/trust/health board/regional level.

Data analysis rules

- Small numbers have been suppressed if they risk identifying an individual
- Any percentage under 1% has been presented in the report as <1%
- Percentages were not calculated if the denominator was less than 100 so as not to inflate the findings, unless to compare groups within the same analysis
- There is variation in the denominator for different data sources and for each individual question as it is based on the number of answers given

Information governance

All data received and handled by NCEPOD complied with all relevant national requirements, including the General Data Protection Regulation 2016 (Z5442652), Section 251 of the NHS Act 2006 14 (PIAG 4-08(b)/2003, App No 007), and the Code of Practice on Confidential Information. Each patient was given a unique NCEPOD number.