

## DeCon Multi-site Audit: Emerging Findings

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### Introduction and Background

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PATRON HRH The Princess Royal

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## Acknowledgements

- A Special thank you to all of the following:
  - Funder: National Reyes Syndrome Foundation, UK
  - All Clinical and non-clinical staff involved in the audit
  - Stakeholder organisations
  - DeCon Project Board members

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# Table of Contents

- Background
- Data Collection tools
- Epidemiology
- Aims
- Organisational features of participating trusts
- Use of the guideline
- Methodology of the clinical audit
- Case identification
- Inclusion/Exclusion Criteria
- Limitations of the clinical audit

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## Background

- Funded by the National Reyes Syndrome Foundation, UK
- Based on the 2005 Paediatric Emergency Group guideline *The Management of a Child with a Decreased Conscious Level*
- There are 54 NHS trusts (comprising 66 hospitals) participating in the audit in England, Wales and Northern Ireland.

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# Data Collection Tools

- Comprises three components:
  - A descriptive survey of the organisational features
  - A clinical audit of specific recommended criteria and standards from *The Management of a Child with a Decreased Conscious Level* guideline
  - A descriptive survey of clinicians' use and perceptions of the guideline

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# Epidemiology

- The underlying cause for a decreased conscious level may be traumatic, non-traumatic or unknown
- Sparse epidemiological data exists on these children but some estimates suggest:
  - Traumatic causes  $\approx$  at least 381 children per 100,000 in England in children under 15 years<sup>1</sup>
  - Non-traumatic causes  $\approx$  30 children per 100,000 ( 0-16 year olds presenting to hospital in North England)<sup>2</sup>

1. Hospital Episode Statistics (2010) Primary diagnosis: summary 2009-2010 NHS Health and Social Care Information Centre; Department of Health London [www.hesonline.nhs.uk](http://www.hesonline.nhs.uk)

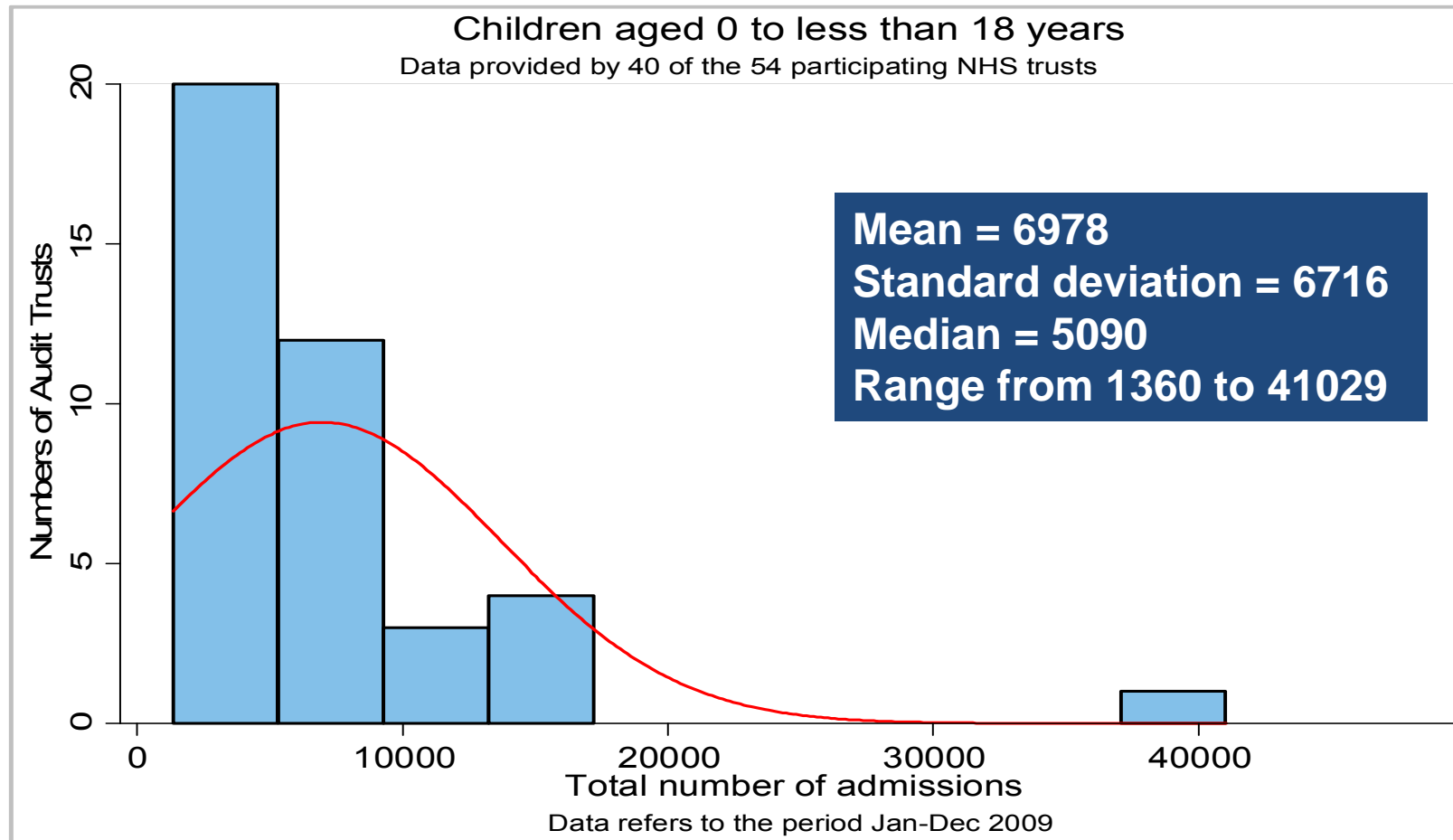
2. Wong CP; Forsyth RJ; Kelly TP; Eyre JA (2001) Incidence, aetiology, and outcome of non-traumatic coma: a population based study Archives of Diseases in Child and young personhood; 84:193-199

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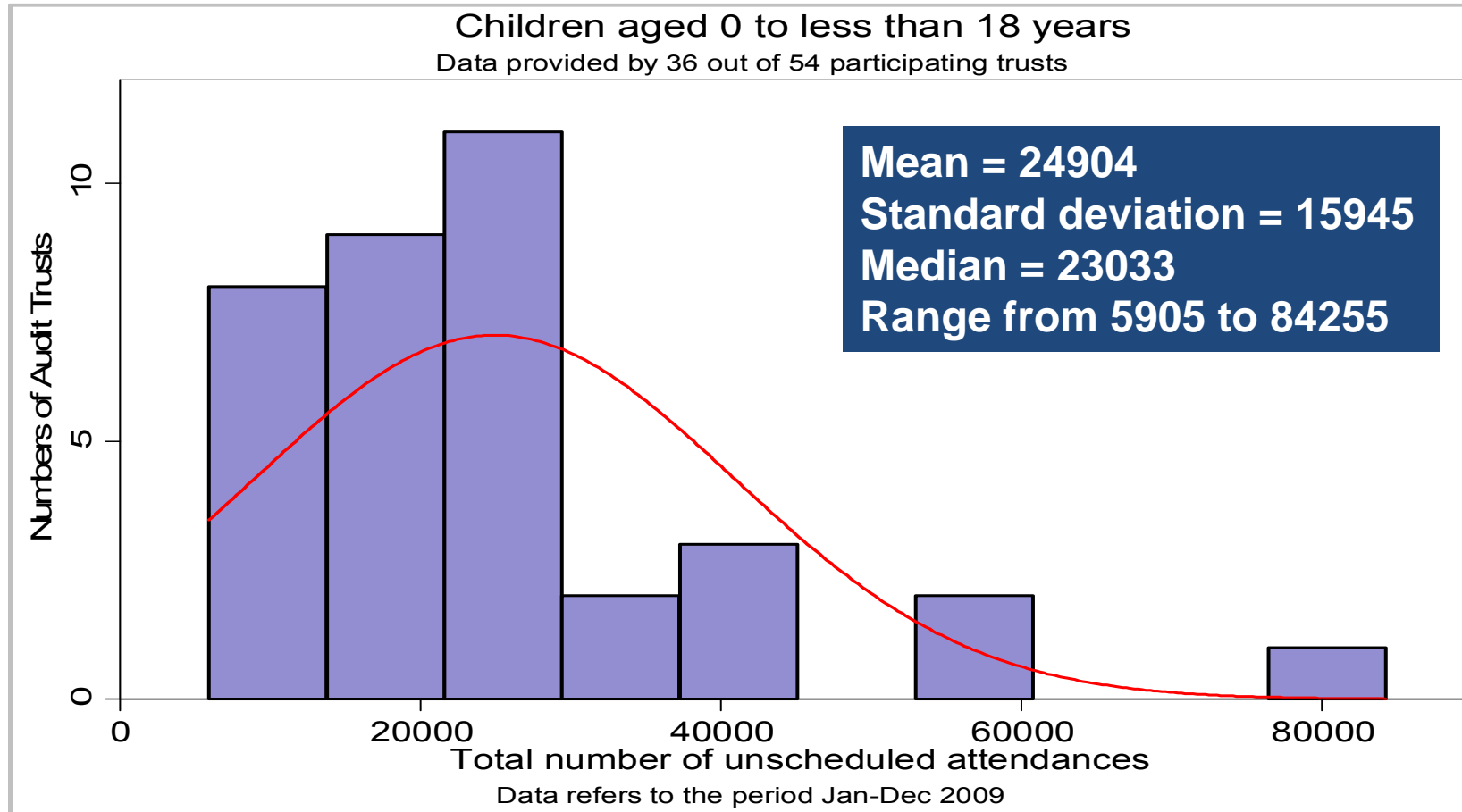
# Aims

- To assess whether children with a decreased conscious level are receiving appropriate care according to selected recommendations within the guideline.
- To identify how the guideline is currently being implemented in different settings and determine any barriers to change.
- To use the information from the audit and clinicians' survey to support the revision of the guideline

# Organisational features: Admissions



# Organisational features: Unscheduled attendances



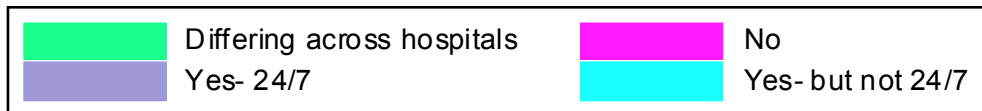
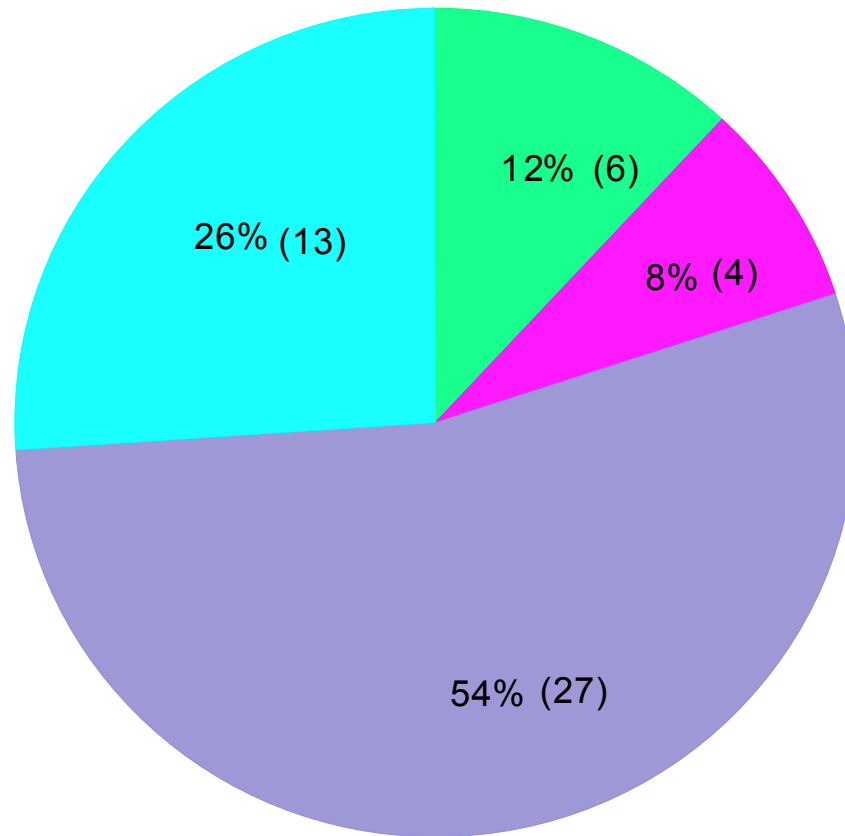
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## Organisational features: Facilities and Resources

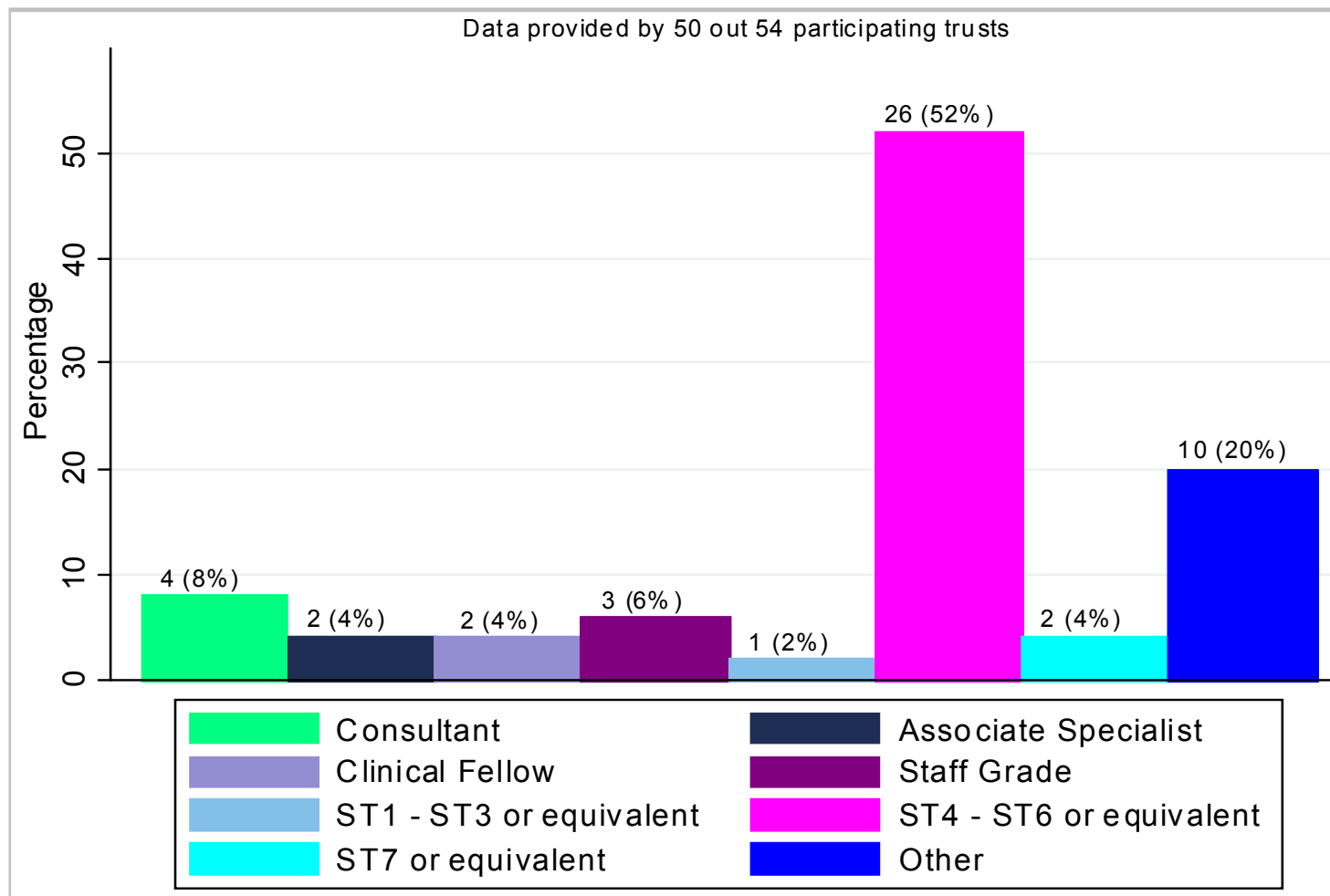
- There are 54 NHS trusts (comprising 66 hospitals) participating in the audit in England, Wales and Northern Ireland.
- 50 (92.6%) of those provided data about their facilities and resources:
  - On-site paediatric ED = 60.0% (30/50)
  - Dedicated PICU on-site = 12.0% (6/50)
  - Paediatric assessment unit = 68.0% (34/50)
  - Paediatric nurse with APLS or equivalent training on-site in a typical week = 78.0% (39/50)
  - Access to a laboratory able to process plasma ammonia = 92.0% (46/50)
  - Access to CT scanning = 98.0% (49/50)

# Organisational features: Access to Paediatric anaesthetic skills or expertise on-site in a typical week

Data available for 50 out of 54 trusts

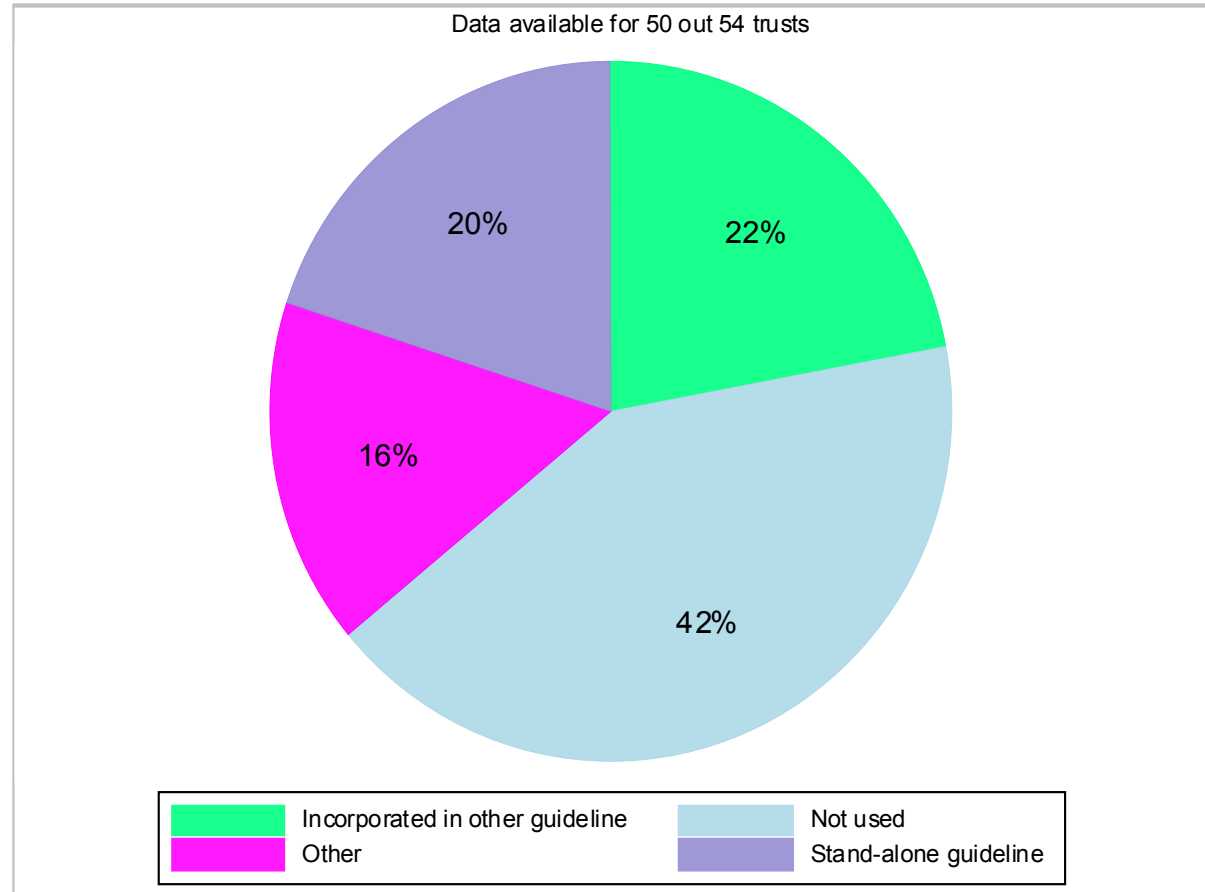


# Organisational features: Senior paediatrician resident at night on-site in a typical week



## Use of the guideline in the participating trusts

- Guideline not used = 21 (42%)
- Guideline incorporated within another guideline = 11 (22%)
- Used as a stand-alone guideline = 10 (20%)
- Other use of the guideline = 8 (16 %)

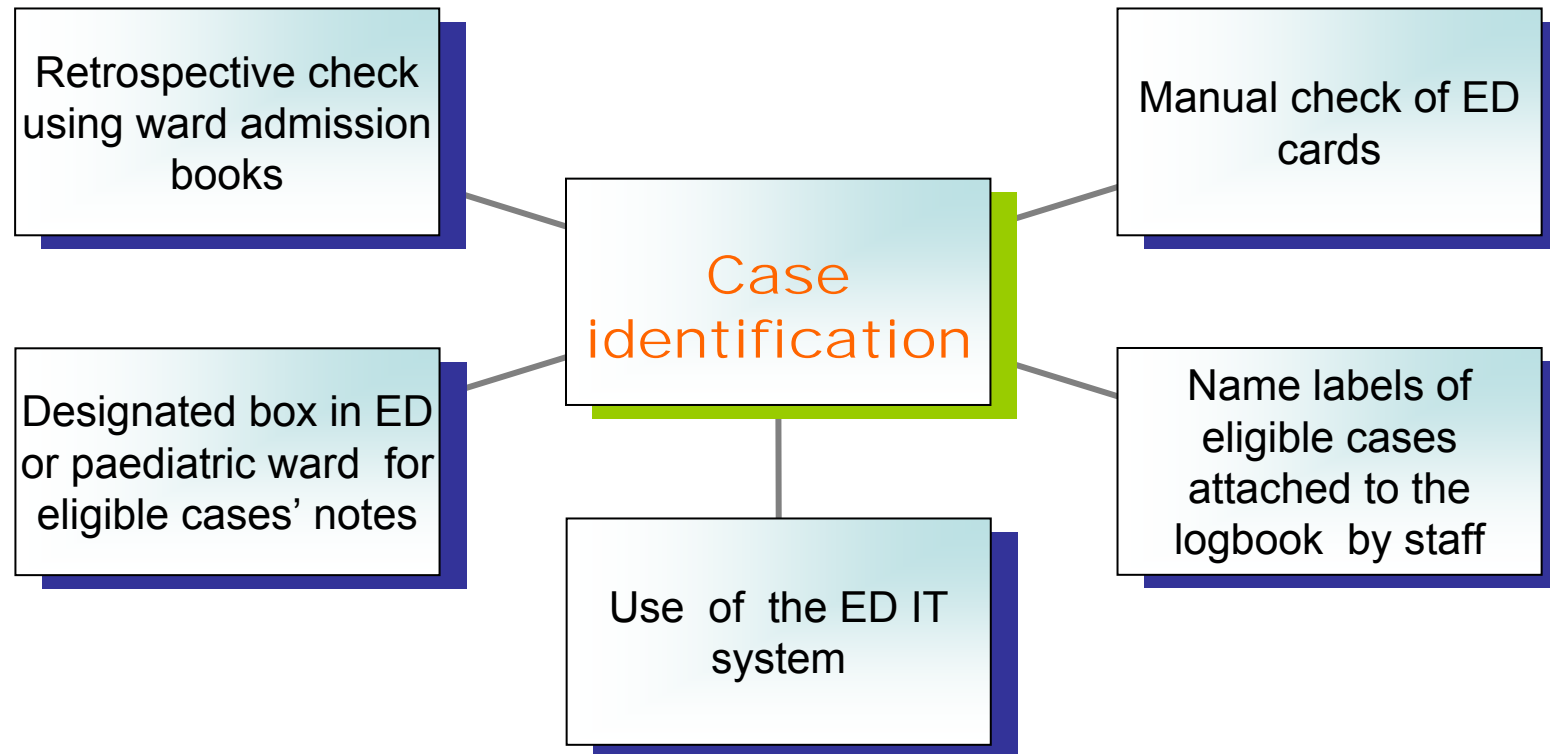


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## Methodology of the clinical audit

- Prospective identification of consecutive cases of children less than 18 years presenting to hospital with a decreased conscious level.
  - Trusts reported difficulties in adhering to a strict prospective case identification methodology
  - Trusts employed either a wholly retrospective approach or a combined approach
- Clinical audit data collected via an on-line tool providing encryption of patient identifiable data (NHS or hospital number and the date of birth) and prevents the entry of duplicate episodes of care.

# Case Identification



- Different working practices mean no one method suits all trusts for case identification

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## Inclusion/Exclusion Criteria

### Inclusion Criteria

- 0-17 years
- AVPU assessment of voice, pain or unresponsive OR GCS 14 or less
- Presents to ED, PICU & PAU
- Decreased conscious level secondary to alcohol intoxication, head injury or trauma and febrile seizure
- Repeated episodes of decreased conscious level providing there is no known or established diagnosis

### Exclusion Criteria

- Previously diagnosed condition known to be the cause of the decreased conscious level such as epilepsy, diabetes or other metabolic conditions
- Possession of a ventriculo-peritoneal shunt
- GCS less than 15 on a day to day basis
- Preterm or full term infants with decreased conscious level from the moment of birth onwards
- Transfers from another hospital.

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## Limitations of the audit

- Under-estimation and poor data capture of some categories of children such as those 16 years and over or those presenting with alcohol intoxication
- Contamination of the methodology- due to failure to adhere to a strict prospective approach
- Possible Hawthorne effects due to increased awareness of the standards as the audit progresses
- Setting standards based on documentation overlooks care in cases where documentation is inadequate