

# Quality improvement project on the assessment, investigation and management of childhood epilepsy

Dr Waqar Baber (waqar.baber@nhs.net), Dr Durga Herath, Dr Sellammai Sambantham  
United Lincolnshire Hospitals NHS Trust

## Introduction

- Epilepsy affects one in every 200 children and young people in the UK<sup>1</sup>
- Epilepsy12 National report published by RCPCH in 2014 recommended hospitals to review services for improvement
- Emphasis on appropriate approach to diagnosis, investigation and management

## Aims

- Investigate the assessment and management of epileptic patients
- Explore patient demographics
- Compare local trust (ULHT) data with national data

## Methods

Outpatient clinic and inpatient discharge letters were audited retrospectively for 40 patients who had been followed up for at least a year. Areas explored were:

- Patient demographics
- Diagnosis of epilepsy including professional input
- Assessment and classification of epilepsy
- Management

## Results

### Demographics

- 23 (57.5%) were males and 17 (42.5%) were females
- Age of diagnosis ranged from 2 months old to 15 years old

Age	<2 years	2-5 years	6-10 years	11-15 years
Frequency	9	11	10	10

Table 1. Frequency of patients by age groups

### Psychiatric and cognitive co-morbidities

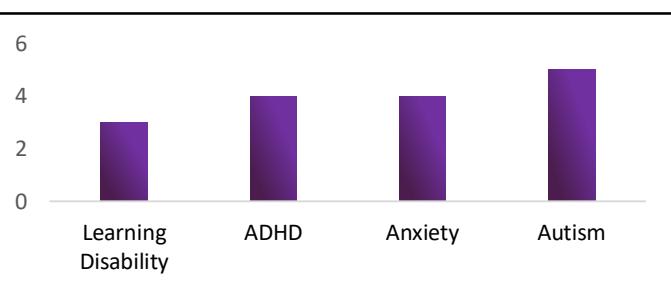


Figure 1. Proportion of patients with psychiatric co-morbidities

15 (37.5%) of patients had a psychiatric or cognitive co-morbidity

### Professionals

- 13 patients (32.5%) had an input by a consultant paediatrician with a special interest in epilepsy
- 4 (10%) were referred to an epilepsy specialist nurse by one year
- 23 (57.5%) were referred for input from neurologists based at a tertiary centre → 8 were <2 years old

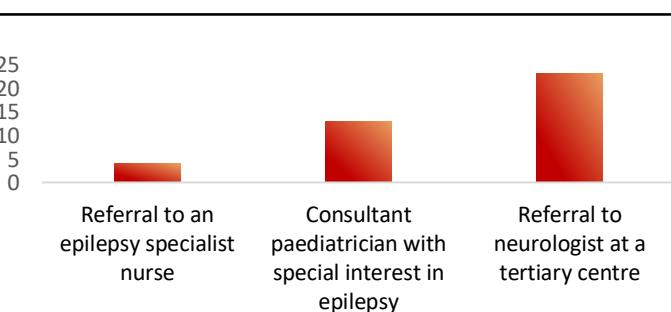


Figure 2. Input from professionals within one year

## Assessment and classification

- 28 (70%) had evidence of appropriate first clinical assessment
- 40 (100%) of patients had an EEG
- 30 (75%) of patients had an MRI → 14/30 (66.7%) had an indication for MRI as per NICE guidance
- 36 (90%) were classified by seizure type
- 17 (42.5%) were classified by an epilepsy syndrome category

## Management

- 12 (30%) were treated with carbamazepine
- 14 (35%) were given rescue medications
- 5 (12.5%) of letters documented advice being given regarding physical activity or water safety
- 36 (90%) still had their epilepsy diagnosis at one year

National data (from Epilepsy12 audit)

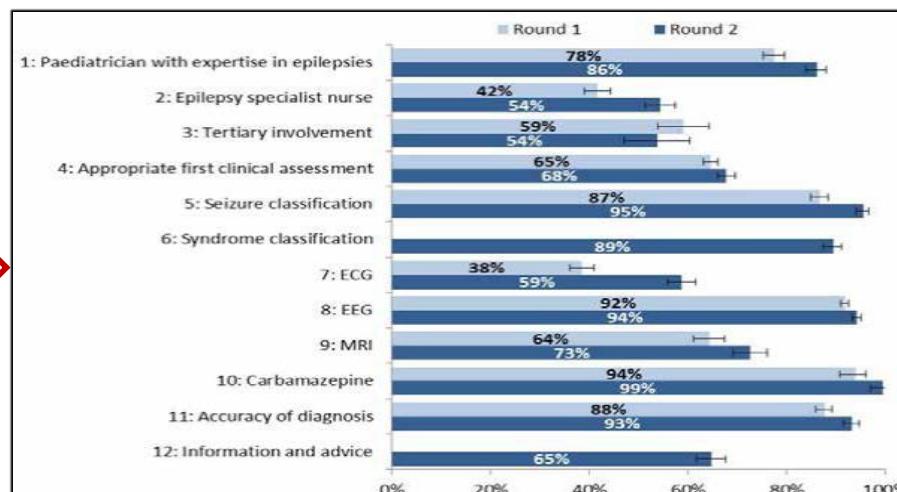
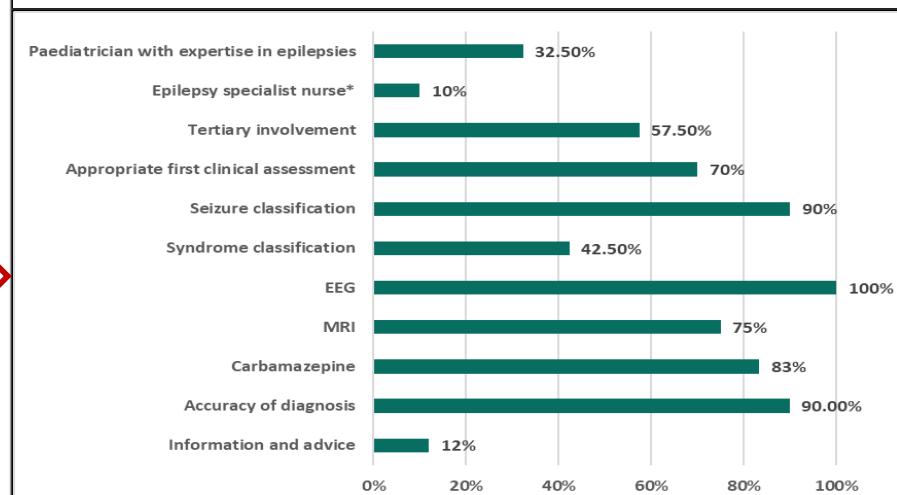


Figure 3. National data compared with ULHT data

Local trust data



## Conclusions and Discussion

- Minority of patients had an input from paediatricians with special interest or epilepsy nurses
- Little evidence of dissemination of safety advice regarding strenuous physical activity and water safety which are an essential part of follow-up
- 67% had an indication for an MRI – are we doing unnecessary scans?
- Proportion of children with psychiatric and cognitive co-morbidities highlight the need for early screening and effective mental health services<sup>2</sup>

## Recommendations

- Regular educational sessions in highlighting the importance of 1) safety netting advice regarding water safety and physical activity, 2) input from a paediatrician with expertise in epilepsy<sup>3,4</sup> 3) performing appropriate scans when indicated
- To be reviewed at least once by a paediatrician with special interest in epilepsy and an epilepsy nurse to provide knowledge and advice which would in turn improve clinical outcomes<sup>5</sup>
- MRI scans to be performed only when indicated as per guidelines
- Appropriate first clinical assessment should be carried out in an individual presenting with an attack i.e. cardiac, neurological, mental status and developmental assessment where appropriate.

## References

- Royal College of Paediatrics and Child Health (2014). Epilepsy12 Round 2 National Audit Report: A Summary for Parents, Carers, Children and Young People. Available at: [https://www.rcpch.ac.uk/sites/default/files/Epilepsy12\\_Round\\_2\\_National\\_report\\_a\\_summary\\_for\\_parents\\_children\\_and\\_young\\_people.pdf](https://www.rcpch.ac.uk/sites/default/files/Epilepsy12_Round_2_National_report_a_summary_for_parents_children_and_young_people.pdf)
- Davies, S., Heyman, I. and Goodman, R. (2003). A population survey of mental health problems in children with epilepsy. *Developmental Medicine & Child Neurology*, 45: 292-295. doi:10.1111/j.1469-8749.2003.tb00398.x
- Scottish Intercollegiate Guidelines Network (2018). Epilepsies in children and young people: Investigative procedures and management - A national clinical guideline. Available at: <https://www.sign.ac.uk/assets/20181105-epilepsy-in-children-consultation-draft.pdf>
- British Paediatric Neurology Association (2013). A national approach to epilepsy management in children and adolescents. Available at <https://www.bpna.org.uk/training/epilepsymanage.pdf>
- National Institute for Health and Care Excellence (2013). Quality statement 5: Epilepsy specialist nurse. Available at: <https://www.nice.org.uk/guidance/qs26/chapter/Quality-statement-5-Epilepsy-specialist-nurse>