Quality and timely EEG recordings at Nottingham University Hospitals NHS Trust

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Aim: Achieve a full, quality and interpretable routine EEG recording in 95% of all children and young people for whom an EEG is requested, within 4 weeks of referral, by May 2020

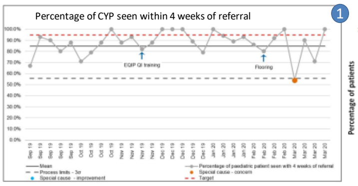
Background: Many of the children and young people (CYP) referred for EEGs present with intellectual disability (ID), autism spectrum disorder (ASD) and / or anxiety. The recording of full, quality EEGs in this cohort can be challenging for all involved. By improving the preparation and experience of this group of CYP and their families, we hope to improve the quality of the recorded EEG to optimise the accuracy of epilepsy diagnosis within our service.

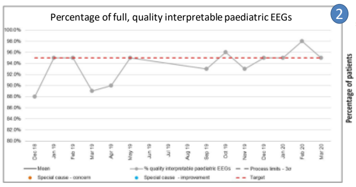
Additionally, by reducing our EEG waiting list time from 6 to 4 weeks, we aim to see CYP in a timely manner in line with NICE guidance (NICE CG137, 1.6.3).

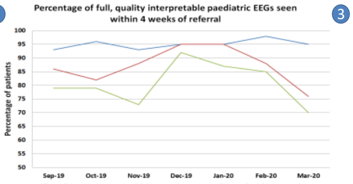
Our improvement journey – the steps we took

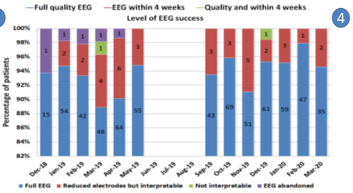
- Nov 2019 Reduce breach date from 6 to 4 weeks
- Nov 2019 Collect post-EEG feedback from families / carers - questionnaire
- Nov 2019 Pre EEG discussion with families /carers about specific needs of CYP +/- 1 day prior to EEG
- Dec 2019 Pasta-poll for CYP feedback
- Dec 2019 Improved comm. pre-EEG between referrers and Neuro-physiology
- Dec 2019 Signposting to on-line video of EEG (Evelina)
- Jan 2020 Follow-up call to families / carers. How was the experience?
- Feb 2020 Addendum to CYP EEG leaflet with signposting
- PLAN for family / carer forum meeting via Zoom. Own dept. video

Outcome Data







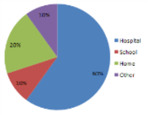


Driver Diagram

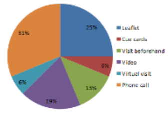
Primary Drivers	Secondary Drivers	Ideas for Change
Attending the appointment	Referred appropriately Contact and booking of appointment Reminder text, phone-call Travel / attendance	Education, guidance, triage CYP and families / carers fully informed – why EEG is important
Child or young person tolerating or cooperating with the EEG	Individual challenges - ID, ASD, anxiety Staff expertise	Preparation and explanation – language and communication Pre-visit to department / use of melatonin Additional training – autism awareness etc.
Equipment and environment	Quiet / sensory etc.	Home or school EEG?

Qualitative Feedback from Families / Colleagues

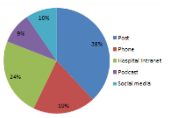
Where would you have preferred the EEG test performed?



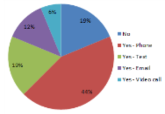
What information would you have liked before the EEG?



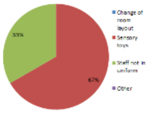
How would you like to access the information about the EEG?



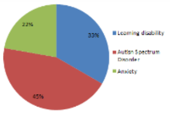
Would it be helpful to ask questions about the test before coming?



Are there any other changes that you would like to see?



I (child or young person) have…?



COMMENTS

What a great idea! (phone call before visit)

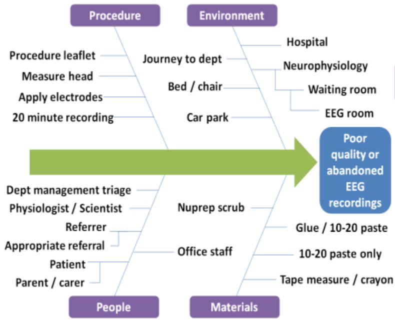
What a great service!

This is 100% better than last time

The slow and gentle approach of the staff helped him relax and gain his confidence.

He was reluctant to attend, it's not been done before ,but I think he would be happy to repeat the experience

How did you diagnose the issue? (pareto, flowchart)



Bright Spots / Challenges

Bright spots

- Great feedback from families about increased flexibility to tailor the EEG investigation – use of melatonin, pre-visit play-dates, non-uniform for staff etc.
- Rewarding, collaborative links now formed to enable future dialogue and multidisciplinary working
- Sharing of challenges and ideas
- Inspiration for other QI ongoing within the team: further information and resources for young people in our teenage epilepsy clinic; 'ready-steady-go' transition support; virtual consultation and phone triage of children and young people with a first seizure during Covid-19 pandemic.

Challenges

- Time constraints to contact families / carers pre-EEG
- Follow-up call if a CYP had been distressed / struggled with the EEG did not happen.
- Project was EEG appointment based which paused during Covid-19 pandemic.

Your tests of change

PDSA 1 Breach date reduced from 6 weeks to 4 weeks

PDSA 2 Families / carers of CYP with ID / ASD / anxiety receive a phone call the day before attending for an EEG. This allows a 'heads-up' and answers any queries or anxieties from the CYP / family / carer

PDSA 3 Feedback questionnaires issued post EEG. These allow CYP and families to reflect on the experience, helping to shape the service to better meet the needs of CYP with ID / ASD / anxiety

PDSA 4 Addendum added to CYP leaflet signposting useful links - 'Having an EEG'

Team personal learning / next steps

Personal learning

- We had two, rather than one, improvement objectives. This meant that the good work in improving the quality of EEGs was masked by increases in our waiting times (Graph 3 Outcome Data)

Next steps

- Plan for a service user forum to explore further ways of meeting the needs of CYP attending for EEG. We currently have five offers of involvement. Increased familiarity with and availability of online group video conferencing may increase the numbers able to participate.
- Plan for interim amateur phone-video, with future charitable funds application for official Trust department video