

Innovative Mental Health Intervention

QB tech and AHSN network

Qbtech are an organisation fiercely passionate about improving the lives of people with ADHD. By enabling clinicians who assess for ADHD to make faster Diagnosis and more effective evaluation of whether treatment is working for patients or not. QbTest has been partnering with the NHS for the last 2.5 years on the 'Focus ADHD' AHSN Network National programme. This is a 3 year programme and supports NHS mental health trusts and community paediatric services to improve the ADHD assessment offer to children and young people. Pre-Covid-19 children in the UK waited 18 months to obtain a diagnosis, and delays to support and treatment significantly impact personal development, academic outcomes, and family interaction. Additional mental health problems related to poor management of ADHD include depression, anxiety, sleep and eating disorders, and self-harm. Focus ADHD aims to accelerate the uptake of an objective assessment (QbTest, www.qbtech.com) to supplement the clinical assessment process, leading to a reduction in diagnostic delay. So far QbTest and the National Programme has helped more than 62,000 patients in the NHS who are undergoing an assessment for ADHD. (See supporting data for full impact)

ADHD is a neurobiological disorder with symptoms of inattention, hyperactivity and impulsivity. It is a treatable disorder that affects around 5% of school-aged children worldwide. Undiagnosed and/or untreated ADHD can have a significant impact on personal development, academic outcomes, and family interaction.

A patient with ADHD will pass through multiple stages in the process of seeking help with no consistent referral routes across the UK. Once referred, traditional assessment is based on the clinician's judgement, supplemented by subjective reports from parents, teachers, and the young person. These reports can be contradictory, incomplete, and not returned within a timely manner leading to delays in diagnosis. Often multiple appointments are required to reach a diagnostic decision.

The ambition of the technology is to add Objective measured of the core symptoms of ADHD, this can reduce current waiting lists in the NHS by expediting the long assessment processes created by having only subjective tools at the clinicians disposal for a diagnosis.

The technology and the programme has had a “Game changing impact” upon ADHD assessments for children and Adults since the start of the programme in 2019, we are passionate about improving the lives of those with ADHD and clinicians who help them. Here are some areas below on how the project has gone above and beyond:

The real-world-demonstrator evaluation led by East Midlands AHSN demonstrated the quantitative and qualitative improvements that the implementation of an objective assessment has on services. The Focus ADHD programme is based on quality improvements as well as capacity releasing. In addition, as part of the national programme an evaluation is being conducted on new sites which will reinforce the savings made as well as the benefits to children/families and the acceptability to clinicians

The cost-benefit analysis from the real-world demonstrator highlighted a saving of £343 per patient referred for an assessment. This equates to in excess of £6.5M of capacity released by the 19,280 patients undertaking an objective assessment in the last 18 months.

The quality improvements include greater clinician understanding of a child's symptoms in relation to an ADHD diagnosis. As evidenced in the real-world demonstrator 94% of clinicians reported a greater understanding of patients' symptoms. The information provided by an objective assessment can also have a direct impact on the number of appointments to make a diagnosis. This not only releases capacity within clinical teams (one appointment per child undertaking a QbTest when put at the start of the diagnosis pathway) it also reduced the number of nurse school visits for trusts that undertake this method of observation (the real-world demonstrator reduced the need for services undertaking nurse school observations from a 3rd of children requiring an observation down to approximately 10%).

To support sites wishing to use an objective assessment as part of their Covid-19 recovery, Qbtech and East Midlands AHSN worked with Leicestershire Partnership NHS Trust to develop a Covid-19 reset case study. This case study helped identify methods for managing QbTest assessments during Covid-19 as well as highlight the infection control procedures used to minimise risks to staff and patients.

The attached Focus ADHD One Year Review demonstrates the findings of the real-world demonstrator programme, the success of the national programme in year as well as the impact of Covid-19.

In addition to the real-world demonstrator results, an evaluation of the national programme is being conducted on new sites which will reinforce the savings made as well as the benefits to children/families and the acceptability to clinicians. This will be completed in September 2022 and will add further strength to the existing positive data that QbTesting patients reduces time to diagnosis, improved patients understanding of their condition, clinical confidence in a diagnosis and significant cost savings to the NHS.

QbTest is a computer-administered test that objectively measures cognitive performance and activity levels. The test provides data for the core signs of ADHD; that is, attention, hyperactivity and impulsivity. QbTest combines a Quantified Behavioral Task (QBT) with a high resolution motion tracking system that uses an infrared camera to follow a reflective marker that is attached to a headband.

Validity studies with QbTest have shown between 79 and 96 percent sensitivity (correct classification of participants with ADHD) and between 81 and 94 percent specificity (correct classification of non-clinical participants) Clinical utility studies with QbTest have shown significant improvements in diagnostic accuracy and clinical efficiency when QbTest was added to the clinical process. There are no other innovations available that measure all 3 core symptoms of ADHD objectively.

During the first 18 months of the programme, an additional 16 new trusts and 29 new sites have implemented QbTest. This includes trusts that have implemented QbTest as part of their Covid-19 recovery plans and brings the total to 60 trusts across 117 sites in England.

Trusts have directly benefitted from support from their local AHSNs in the form of project management resources, access to the evidence base that supports the use of an objective assessment and tools to support their work including an implementation guide, FAQ's, case studies, project plans and a template business case.

In the first year of the programme, despite the impact of the Covid 19 lockdown, 9,812 patients benefited from having an objective assessment. In the first 6 months of 21/22, a further 9,468 patients have benefited. This gives a total of 19,280 children and families have benefitted since the start of the programme which in turn translates to 19,280 appointments saved.

The evidence of the impact of QbTest is captured below and highlights how it has a material effect on the ADHD assessment process vs subjective tools.

To evaluate the impact of QbTesting on patients who were being assessed for ADHD the East Midlands Academic Health Science Network (EMAHSN), and 3 East Midlands NHS Trusts completed a real-world demonstrator project across 7 sites over a 12-month period. The impact of the addition of QbTest was shown through an independent audit to;

- Reduce the time from assessment to diagnosis by 153 days (median figure)
- Reduce the number of appointments required to rule in or rule out ADHD by 1 per patient Release 20% clinical workforce time
- Achieve a 33% cost reduction
- Generate a Return on investment (ROI) of £84,460 per site per year
- 94% of clinicians reported a greater understanding of patients' symptoms and 85% of patients found the results helpful.

Please see an impact chart below of the impact to date on people affected with ADHD. We hope to continue to scale and have a positive impact on millions of people with ADHD, not just thousands.