The National Institute for Clinical Excellence appraises QbTest

Key findings from Medtech innovation briefing [MIB318] and further clinical research on QbTest

Qbtech

Summary

The National Institute for Clinical Excellence (NICE)[1] published its Medtech innovation briefing for QbTest (MIB318, 2023) on 7 March 2023. Medtech innovation briefings (MIBs) are NICE advice. They are designed to support NHS and social care commissioners and staff who are considering using new medical devices and other medical or diagnostic technologies.

Scan this code to access the NICE website

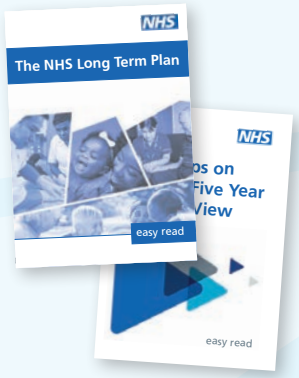
The information provided in a briefing includes:

- a description of the technology,
- how the technology is used,
- the potential role in the treatment pathway,
- a review of relevant published evidence; and
- the likely costs of using the technology.

MIBs are designed to be fast, flexible, and responsive to the need for information on innovative technologies. They help avoid the need for organizations to produce similar information locally, saving staff time and resources.

Why are MIBs produced?

MIBs are commissioned by NHS England and produced in support of the NHS Five Year Forward View. They are one of several steps taken to accelerate innovation in new treatments and diagnostics.



The NHS Five Year Forward View sets out a shared vision of how services need to change and what models of care will be required in the future. The Forward View also links to the NHS Long Term Plan, which states that the benefits of technology and innovation should be leveraged to help improve the quality of care, reduce waiting lists, and reduce inequalities (NHS, 2019).

Key findings include:

1. Experts recognise QbTest as an addition to routine clinical assessment of ADHD

2. The NICE evidence review and ADHD experts confirm that QbTest helps clinicians make accurate decisions, saving time and money

3. NICE reports reduced ADHD waiting list achieved through the use of QbTest

1 The National Institute of Clinical Excellence (NICE) is a UK government-funded non-departmental public body that aims to establish guidelines for clinical best practice.

Increased clinical confidence

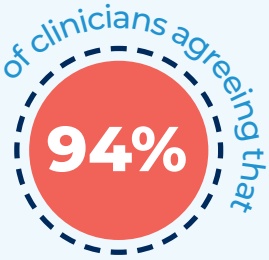
QbTest is indicated for both the assessment of ADHD and the evaluation of treatment effectiveness in children and adults between the ages of 6 - 60.

NICE advises that QbTest should be recognized as part of a "routine Clinical Assessment of ADHD"
(MIB318, 2023).

Randomised Controlled Trial (RCT) evidence reviewed by NICE indicates that patients whose clinicians had access to a QbTest report were **44% (p = 0.029) more likely**, during the study period, to receive a diagnostic decision either confirming or excluding ADHD when compared to those assessed without a QbTest report (Hollis, 2018).

Experts highlight that the technology "is particularly helpful with young girls where the presentation may be less clear and in those who may 'mask' their symptoms". It is well documented that "ADHD is...under-recognised in girls and women" (MIB318, 2023).

NICE also highlights real-world evidence that states "objective measures improve differentiation between ADHD and other comorbidities where symptoms overlap with ADHD" (Carsten Vogt, 2018). Wider analysis confirms that there is a reduction in subjective diagnosis and therefore fewer incorrect diagnoses made. Additionally, researchers found a doubling in the likelihood of clinicians being able to rule out ADHD when QbTest is added to the assessment compared to standard care without QbTest (Hollis, 2018). Clinician feedback and experience have also been surveyed, with 94% of clinicians agreeing that "clinical confidence is increased" (Hollis, 2018).



"clinical confidence is increased"
(Hollis, 2018)

With regards to QbTest used to evaluate treatment effect, NICE publishes

"Experts agreed that clinicians found value in assessing medication effect with QbTest"
(MIB318, 2023).

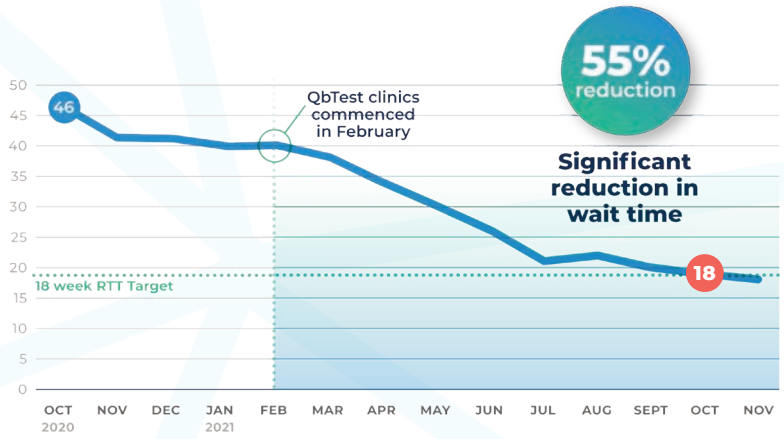
Reductions in waiting list and prescription costs

One of the current challenges for NHS Mental Health services are waiting lists and Referral to Treatment[1] (RTT). Services are often in breach of targets and guidelines, due to demand, referral rate, and lack of workforce capacity (England, 2023). Therefore, there is a need for greater efficiency without compromising quality and care. NICE references models of care that are both nurse-led (North Staffordshire Combined NHS Trust CAMHS service) alongside more traditional Child and Adolescent Mental Health Services (CAMHS) and Community Paediatric models. Where these have integrated QbTest into their pathway, "reduced waiting list and prescription costs have been delivered" (Bullock R, 2022).

The nurse-led team at North Staffordshire CAMHS service, pre-QbTest, had an initial waiting time of 18–24 months. Following the implementation of QbTest, and the use of additional strategies, they have reduced their waiting time to 0-12 weeks with no waiting list. Another team, based in Greenwich, operates on an integrated neurodevelopmental model, receiving referrals from CAMHS and Community Paediatrics. They have seen similar results following the implementation of QbTest, with as much as a 55% reduction in the waiting time and a 38% reduction in the waiting list (Reynolds, 2022).

QbTest: 18 RTT target reached

Wait time (weeks)



NICE also publishes that because of the greater efficiency, there is an "increase in patient access" to services.

The nurse-led team at North Staffordshire Combined NHS Trust also utilized QbTest for treatment evaluation and measured an annual prescription (Rx) cost saving of £202,000 (Bullock R, 2022). Objective measures have been demonstrated to enable clinicians to make more informed decisions about optimizing the effectiveness of medication during titration and follow-ups.

2 Referral to treatment: (RTT) waiting time, is an NHS target for consultant-led treatment, which should be fair and consistent and delivered within an 18-week period. With a target of 92% compliance.

Improvements in efficiency and speed of ADHD diagnoses and cost reductions

NICE has evaluated budget impact assessments for QbTest. “Experts advised recognizing the technology as an addition to routine clinical assessment of ADHD and not as a standalone assessment” (MIB318, 2023). All the experts explained that the potential benefits were quicker assessment, and cost savings because of the improved efficiency of the pathway.

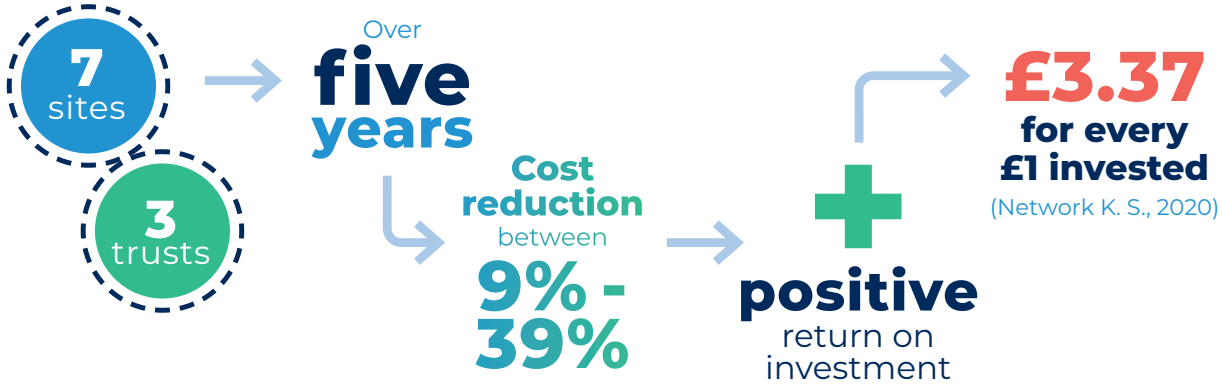
“Despite the test [QbTest] **being used in addition to standard care assessments, real-world evidence suggests adoption of the technology in the ADHD assessment pathway reduces clinician assessment time by 20% to 30%”**
(Network N. a., 2017) (Humphreys, 2018).

Furthermore, (Hall, 2016) assessed the number of consultations to reach a diagnostic decision pre-QbTest and post-QbTest implementation, where the only variable changed was the implementation of QbTest. The primary outcome of this study was **significantly fewer clinician consultations, reduced from a mean of 3.05 consultations to 2.18 (p<0.02)**, required to confirm the diagnosis of ADHD when the QbTest was used (in comparison to standard assessment) (Hall, 2016). This is a total reduction of nearly 1 whole appointment. Resource cost analysis showed, when taking a mid-point cost of £230 per consultant appointment, QbTest delivers a mean cost saving of £55,000 per year. This is achieved through the capacity release of high-banded NHS clinicians based on the reduction in consultations (Humphreys, 2018) (Network N. a., 2017).

Costs of standard care vary depending on specific local processes for diagnosis. An average cost of £700 per case of standard care was determined from a Kent, Surrey, and Sussex cost–benefit analysis and national program evaluation report (Network K. S., 2020) (Caitlin McKenzie, 2022).

Improvements in efficiency and speed of ADHD diagnoses and cost reductions
continued

Real-world evidence demonstrators completed across seven sites and three trusts (comprising a mixture of CAMHS and Community Paediatrics) saw a cost reduction of between 9% and 39% depending on model implementation, as well as a return on investment between £14,300 and £93,000 when QbTest was used. All three trusts reported a strong NHS cost-benefit ratio and positive total return on investment (ROI) percentage. Across the five years that were modeled, the combined NHS cost-benefit ratio was £3.37 for every £1 invested (Network K. S., 2020).



Importantly for commissioners and clinical leaders responsible for budget decisions, NICE summarised that “The use of QbTest could improve the efficiency and speed of ADHD diagnosis as well as reduce assessment costs without loss of diagnostic accuracy. This may lead to an improvement in patient access to treatment” (MIB318, 2023)

Additionally, the national evaluation of QbTest across more than 30 NHS services, highlighted a reduction in school observations by 17%. The objective data provided by QbTest eliminated the need for additional information gathering from a school observation (Caitlin McKenzie, 2022). Completed questionnaires plus a clinical interview to gather a patient history and the QbTest was deemed sufficient. Real-world data also demonstrated up to a 33% reduction in the number of school observations completed to reach a diagnostic decision. This further frees up capacity and costs (based on the average Band 6 nurse completing a 4-hour school observation = £84, excluding travel costs) (Network K. S., 2020).

Finally, all experts stated that minimal room adaptation is required, with experts taking time to explain that “staff training is provided by the company, Qbtech Ltd, with support available anytime.”

Better patient understanding of ADHD

QbTest is being used at 180 sites across 75 NHS trusts, with more than 80,000 children receiving objective measures as part of their ADHD assessment in England as part of the FOCUS ADHD National program 2019 - 2023. However, many patients do not currently have access to objective measures as part of their ADHD assessment. It has been established and well documented that using QbTest could improve the efficiency and speed of ADHD diagnosis without loss of diagnostic accuracy, which "may lead to an improvement in patient access to treatment". Patient experience was surveyed as part of the real-world data. The survey showed that "85% of patients agreed that it helped them better understand their condition" (Hollis, 2018). These findings are supported by another study which concluded that the QbTest provided clarity to clinicians and improved communication and understanding between professionals, young people and their families (Pellegrini, 2020).

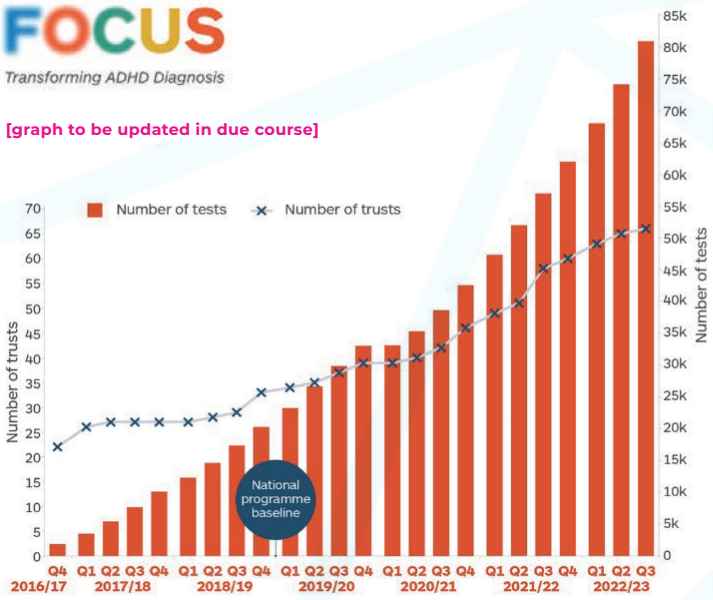
Clinically, it has been highlighted that the objective measures provided by QbTest help to identify girls with ADHD and help identify ADHD where comorbidities are present, which are found in 60 - 70% of patients with ADHD.

Spread of an objective assessment across England

(January 2017 to December 2022)

FOCUS
Transforming ADHD Diagnosis

[graph to be updated in due course]



66 trusts across 132 sites are now providing an objective assessment

22% reduction in nurse school observations in CAMHS*

19% release of clinical time in Paediatric and 9.2% in CAMHS*

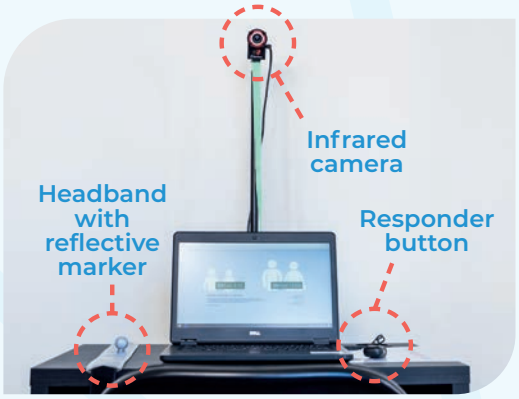
Approx **50,000** patients benefiting since April 2020

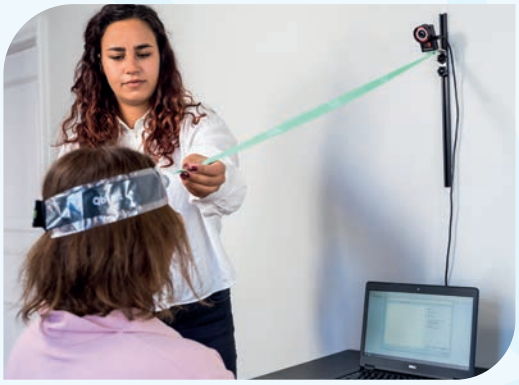
92% of clinicians said the results helped understand patients' symptoms*

Winner of 3 national awards including **2 HSJ awards**

* Findings from the National Focus ADHD Evaluation Oct 2022

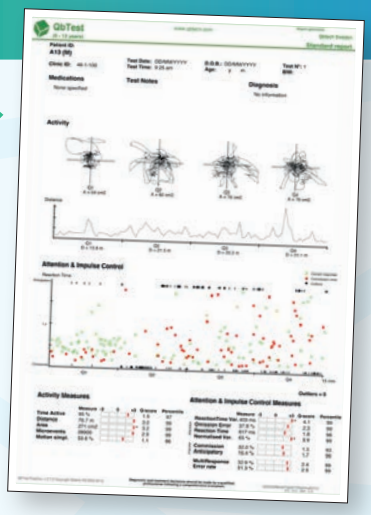
QbTest – FDA Cleared, objective test for measuring core ADHD symptoms*





- QbTest machine
- Infrared camera
- Tripod to securely mount the infrared camera
- Headband with reflective marker
- Responder button
- Stimulus card

Clear reports provide confidence and patient satisfaction



CE NSAI Certified NSAI Certified FDA Cleared

* QbTest is not meant to be a standalone tool for diagnosing ADHD. Instead, it is designed to be added to the assessment process along with a clinical interview and rating scales.

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Get in touch

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