

Questions and Answers

London Webinar: ADHD – Reducing the time to diagnosis for children and young people in London: sharing experiences of using QBTest - 15 November 2021

Answers are provided by QBTech with some additions from Dr Nicola Reynolds, Principal Clinical Psychologist and Clinical Lead for the Integrated Neurodevelopmental Service, Oxleas NHS Foundation Trust and Deputy Clinical Director for Mental Health at the Health Innovation Network.

If you have any further questions, please do not hesitate to get in touch with Health Innovation Network project lead, Ellie Wharton at e.wahrton@nhs.net

1. Which age groups can QBTest be applied to?

6-12 years old - 15-minute test

12-60 years old - 20-minute test

2. Where on the ADHD pathway is QBTest typically implemented?

QBTest can be placed anywhere within a given pathway. However, the largest return on investment and improvements in terms of reducing number of appointments per patient is seen when placed earlier in the pathway e.g. at the beginning of an assessment process. In addition, QBTest is licenced and indicated for treatment evaluation. So should be considered in the post treatment and follow up pathway.

Dr Nicola Reynolds - We use it at the screening stage. A QBTest is booked in when the Conners, school questionnaire and parent report have all been returned and then all the information is triaged together to decide next steps.

3. What is the sensitivity and specificity for QBTest?

Studies indicate that sensitivity and specificity are between 86% and 90% stand alone. By adding the information from QBTest to the results from the subjective rating scales, correct classification could be increased from ~84% to 94% (ADHD) (Groom, 2016)

4. What are the average costs and implementation costs for QBTest?

QBTest combines a licence fee (£535.00) and maximum price per test (£26.00). The average service will cost around £11,000 annually

5. What is the return on investment for QBTest?

Real world data linked to the AQUA trial demonstrates an 'in year' (12 months) deliverable return on investment (ROI) of £3.37 for every £1.00 invested (Hollis, 2018). The return on investment has been based upon the releasing capacity of staff time, allowing services to reduce time to diagnosis and waiting lists. The AHSN Network provide a business impact model to give an idea of the ROI any service may achieve.

6. What qualifications do you need to deliver QBTest?

Only persons trained via QBTech to administer or interpret can deliver or analyse the QBTest. This training is organised on agreement to implement QBTest within the service.

7. What equipment is needed for QBTest?

Laptop, Infrared camera, Head band with reflective marker, Responder button, Ikea stool - All the equipment is provided as part of the licence fee.

8. Can QBTest be used from home?

The QBTest must be performed by a trained member of staff. And although the system itself is portable it is generally designed to be used within the service itself.

9. What if a child can't perform the test satisfactorily?

See question 10, below.

Dr Nicola Reynolds - *If a child cannot perform the practice tests then it is abandoned but this does not mean the overall assessment cannot continue. We would just proceed as we would have done before QB and make the decision based on the parental history, school report, Conners and clinic observations. Behavioural observations are recorded during the QB by the administrator, and these provide some contextual information when interpreting. If a child cannot do the QB this is useful information in itself. Behavioural observations can indicate whether the child did not pass because they did not understand, were really anxious, were too impulsive or just not engaged / defiant.*

10. Can QBTest be used for children with learning disabilities and ADHD concerns?

Yes. Most children are able to perform a QBTest. Those children with severe learning difficulties may fail to understand the instructions and therefore fail to complete a QBTest. During the administration of a QBTest, test administrators will show a video of the test instructions, then show a stimulus card to check understanding, then the child will take up to 3 'ability tests' which are 1 minute long. The administrator should at this point have a good idea if the child is able to understand the instructions and will be able to perform a QBTest. If the child has a combined 30% commission and omission error score of >30%, it would be the clinician's decision whether the child should continue to perform the test.

11. Can the test be used for children with a visual impairment?

Dr Nicola Reynolds - *It would depend on the degree of impairment. A young person needs to be able to distinguish between two shapes and colours. If someone is colour blind, they would need to be able to distinguish between two colours (if they are doing the test for older children) even if they do not recognise those colours as blue / red. A child who wears glasses for long / short sightedness would be able to do the test.*

12. What about child has been excluded from school?

Dr Nicola Reynolds - *QBTest is really helpful in these cases. It is often not possible to obtain school Connors / reports when a child has been excluded or is home educated. The QBTest provides objective information about a child's activity, inattention and impulsivity and an opportunity to undertake behavioural observations that can be interpreted alongside parental report.*

13. If a child presents as inattentive type, so doesn't score on hyperactivity and impulsivity on QB test would they still be meeting criteria for ADHD assessment (inattentive type)?

Alongside rating scales and patient interviews, QBTest provides objective data which assesses the 3 core domains of ADHD and compares them to a normative group. All sources of information should be considered when providing a diagnosis to either rule in or rule out ADHD.

14. Do you find that some people may hyperfocus during the test, could that cause inaccuracy?

Dr Nicola Reynolds - *Yes, and this is where the QB can be helpful if differentiating ADHD and ASD for example. The QBTest yields scores for activity, inattention and impulsivity which are compared to the normative sample to indicate if a score is average, atypical, or better than expected. If a child's score for inattention is much lower / better than would be expected that would be considered atypical but in the other direction, e.g. they were hyperfocused.*

15. Is a child with significant/severe impulsivity likely to be unable to do test /fail the test?

Dr Nicola Reynolds - *Yes, some children are so impulsive that they can not complete the practice trials. Behavioural observations are completed by the administrator during the QBTest, and these can indicate if a child's inability to compete the practice trials seems linked to impulsivity.*

16. It has been mentioned on the webinar that if schools don't have many concerns, that QBTest can help in diagnosis - do you find this happens more with coexistent comorbidities like autism spectrum disorder (ASD) where patients are masking both ASD and ADHD symptoms?

Dr Nicola Reynolds - *Yes. It can also happen in girls and older adolescents, particularly ones who are doing well academically, who may not present with such obvious difficulties that school feel concerned even though the young person subjectively reports difficulties.*

17.. Is QBTest advised to use / or currently used in youth offending institutions?

There are +10 Youth offending services that have implemented QBTest in services across the EU.

Bibliography

Groom, M. Y. (2016). The incremental validity of a computerised assessment added to clinical rating scales to differentiate adult ADHD from autism spectrum disorder. *PsychiatryResearch, psychres*, 243, 168-173. doi: 10.1016/j.

Hollis, C. H. (2018). The impact of a computerised test of attention and activity (QbTest) on diagnosticdecision-making in children and young people with suspected attention deficit hyperactivity disorder: Single-blind randomised controlled trial. *Journal Of Child Psychology And Psychiatry And Allied Disciplines*, doi: 10.1111/jcpp.12921.