



Autism and Asperger Syndrome are part of a range of developmental conditions known as autism spectrum conditions (ASC). They affect how a person communicates with others and how they make sense of the world around them. Individuals with ASC have difficulties in social interaction and adapting to change, alongside unusually narrow interests and strongly repetitive behaviour.

Autism research at the Cambridgeshire and Peterborough CLAHRC (CLAHRC CP) is focusing on:

- The 'Red Flags' Project: creating practical tools for detecting autism;
- The 'Teaching Emotions' project: creating special educational materials for teaching social skills;
- The 'Autism Pathways' project: improving local clinical pathways for adults with autism;
- The 'National Autism Clinical Centre' project: creating a new clinical centre of excellence for autism.

Autism research at the CLAHRC CP is led by the Autism Research Centre within the School of Clinical Medicine at the University of Cambridge. The lead is Professor Simon Baron-Cohen and the Research Manager is Dr Carrie Alison.



The 'Red Flags' project

Autism Spectrum Conditions can be difficult to diagnose because symptoms can be hard to detect and to assess in very young children, and therefore there is often a delay in receiving an assessment and a diagnosis.

The Red Flags are four brief checklists (one for each of the four age groups: toddlers, children, adolescents, and adults). The checklists were tested with 1,000 patients. Results showed that all four checklists were excellent predictors of cases of autism. The checklists provide a quick and accurate tool for busy GPs to determine if a particular patient needs referral to a specialist centre for

a full diagnosis. The benefit to the patient is to speed up the time it normally takes to access a diagnosis. The National Institute for Health and Clinical Excellence (NICE) has recommended the use of the adult checklist in its clinical guidelines. In order to make all four checklists easily accessible to front line professionals (including social workers), parents, and adults with suspected autism, all four checklists will be available online at www.redflagsforautism.com in 2013.

The 'Teaching Emotions' Project

Prior to the establishment of the CLAHRC, the Autism Research Centre developed two educational DVDs to teach people how to recognise emotions:

'The Transporters' DVD (www.thetransporters.com) is aimed at young children with autism. It was developed in collaboration with Culture Online to help children with autism aged 5-10 years old. It is an animation that uses vehicles with emotional faces grafted onto them, because young children with autism love to watch movies of vehicles moving in predictable ways along tracks. In this way they are learning valuable social skills that they otherwise miss out on.



'The Mindreading' DVD (www.jkp.com/mindreading) is a comprehensive electronic encyclopaedia of emotional expressions. It contains over 5000 video and audio files of actors expressing every human emotion, and is aimed at people with autism age 4 years up to adulthood to learn to recognise emotions.



The 'Autism Pathways' Project

Adults with Asperger Syndrome have been overlooked by the NHS and Social Care in the past. In recognition of this, in 2009 the UK Government passed the Autism Act and in 2010 published the first Autism Strategy for England. CLAHRC CP is represented on the National Autism Programme Board which leads the changes in the public service set out in the autism strategy.

Locally the autism researchers of the CLAHRC CP work collaboratively with patients, the NHS, the National Autistic Society and local agencies to improve the way adults with autism are supported in Cambridgeshire and Peterborough. The CLASS (Cambridge Lifespan Asperger Syndrome Service) clinic has pioneered methods for the diagnosis of autism and Asperger Syndrome in adults and diagnosed over 700 patients who otherwise would have been overlooked. The CLASS clinic was set up in 1999 by Professor Baron-Cohen with charitable funding from the Three Guineas Trust and since 2011 it has been part of Cambridgeshire and Peterborough NHS Foundation Trust (CPFT).

The National Autism Clinical Centre

To ensure that the above projects are integrated into a model service we have procured a building on the Fulbourn Hospital site and obtained philanthropic funding to renovate the building to create the National Autism Clinical Centre as a centre of clinical excellence.

The donation will enable the footprint of the building to be expanded so that there are clinic rooms for a diagnosis, a family centre for family and individual support, observation rooms for clinical training and meeting rooms for post-diagnosis services. The Centre is a collaboration between two charities (the National Autistic Society and the Autism Research Trust) as well as CPFT and Cambridge University.

People with autism will be involved in the design and planning of services for the Centre and the CLASS

clinic will move there in August 2013. It will be free to patients within the CPFT region and will accept out-of-area referrals if their local PCT will fund the patient. There is also a research facility in the clinic for training of clinicians (via a one way mirror) and integrating research with clinical practice. Outside there is a very large garden that will include a 'sensory garden' (for people with autism and their families to enjoy some tranquility) as well as a 'market garden' (for adults with autism to grow fresh produce and plants for sale) and this sheltered employment project will be managed by the Darwin Nurseries who already run a similar project for adults with learning difficulties.

How we engage with the public

The Autism Research Centre has a database of 30,000 individuals with a diagnosis of ASC or a relative with ASC who have registered as volunteers. As well as participating in studies, volunteers have the opportunity to feed back about their experiences of taking part in research and often put forward ideas for new research.

We involve people with autism and parents in every stage of our research projects to make sure the research is relevant to them. For example, we hold focus groups to discuss possible research ideas, and we involve them in the advisory groups that oversee the research projects.

Further information

National Autistic Society: www.autism.org.uk

Autism Research Centre: www.autismresearchcentre.com

Autism Research Trust: www.autismresearchtrust.org

To join the **Autism Research Centre volunteer database** visit www.autismresearchcentre.com/register.

If you have an interest in our projects and would like to keep in touch with the CLAHRC join our mailing list online: www.clahrc-cp.nihr.ac.uk

References

Allison, C, Auyeung, B, & Baron-Cohen, S, (2012) Towards brief "Red Flags" for autism screening: the short AQ and the short Q-CHAT in 1000 cases and 3000 controls. *Journal of the American Academy of Child and Adolescent Psychiatry*. 51(2): 202-212.

Baron-Cohen, S, Golan, O, & Ashwin, E, (2009) Can emotion recognition be taught to children with autism spectrum conditions? *Proceedings of the Royal Society, Series B, Special Issue*, 364, 3567-3574.

Baron-Cohen, S, Golan, O, & Ashwin, E, (2012) Educational cognitive neuroscience: designing autism-friendly methods to teach emotion recognition. In Della Salla, S, & Anderson, M, (eds.) *Neuroscience in Education: The Good, the Bad and the Ugly*. Oxford University Press.