National Institute for Health and Care Excellence

4-year surveillance (2016) – Autism spectrum disorder in under 19s: support and management (2013) NICE guideline CG170

Appendix B: stakeholder consultation comments table

Consultation dates: 18 May to 1 June 2016

Do you agree with the proposal not to update the guideline?

Stakeholder	Overall response	Comments	NICE response
Ulster University	Disagree	There is one major issue that needs addressed at the outset and it concerns **Professional Ethics.** The reason this is important can be seen from the contrast in conclusions drawn on Applied Behaviour Analysis (ABA) by NICE and by professionals in the USA. Currently, 44 States in America have enacted new laws to ensure that ABA is available under health insurance. By contrast, NICE could not find any evidence to support ABA and therefore could not make a recommendation about it. The reason why there is such a contrast in conclusions that avail of the same research database lies in the expertise of those who were tasked with reviewing the research database. As a Fellow of the British Psychological Society (BPS) I am obliged to uphold the highest standards in Professional Ethics. A key principle in the BPS code of ethics is that professionals should not operate outside of their own area of expertise. The review body that produced the previous NICE report on autism did not include any professionals with an internationally recognized qualification in behaviour analysis. Since a substantial portion of the research database on autism and early intervention contains research conducted by behaviour analysts, it is remarkable that appropriately qualified behaviour analysts were not involved in the review process. This would be unacceptable in any other profession. It would be unacceptable, for example, for medics not to be involved in reviews of medical research. This issue is of central importance when it comes to assessing evidence of	Thank you for your comment. Although the Guideline Committee did not include professionals with an internationally recognised qualification in behaviour analysis, they were familiar with ABA and the research. NICE clinical guidelines are based on the best quality evidence and are developed according to rigorous and robust methodologies. ABA was not recommended in the guideline because most of the evidence comes from single-case experimental designs which have limitations like the restriction of generalisation to wider population and the high risk of publication bias. During guideline development, there was evidence from randomised controlled trials (RCT) and systematic reviews about psychosocial interventions to improve the core features of autism. However, none of this evidence was about ABA. During the 4-year surveillance review, we found a study evaluating ABA. This evidence has been included under review question 170-10 (Du et al. 2015) in Appendix A.2: evidence summary document. This pilot RCT showed a positive effect with the use of bumetanide together with ABA on overall autistic behaviours compared to ABA alone. However, bumetanide is not licensed for use in autism and it is used as a diuretic (loop diuretic) but not recommended for children under 12 years. Therefore, it was considered that this evidence was unlikely to

		effectiveness. Those not trained in the science of behaviour analysis regard ABA as a 'method' or as a 'treatment for autism'. When it is misclassified like this then a serious category mistake ensues in the search for evidence of effectiveness, usually focused on randomized control trials of ABA. There are no randomized control trials for Medicine, Psychology, Speech Therapy, etc etc. Nor can there be, because that is a misuse of this research method. Yet, when it comes to ABA, the mistake is repeatedly made. Scientists not trained in ABA also do not correctly appraise the role of single-case research methodology, which forms the basis of much of the behavioural research literature. To conclude, because review team that produced the previous NICE report did not include professionals with appropriate training to review evidence from another discipline the whole report is seriously flawed and must be revisited.	have an impact on current recommendations. This area will be considered again at the next surveillance review of the guideline.
Interdisciplinary Council on Develop and Learning	Disagree	Although the guideline fits well with our DIR/Floortime Model, we would like to emphasise that since your last review we have a number of new published research projects. We are keen that the literature review is updated to show this. Unfortunately we are waiting for Research Autism to also update their review of our evidence (also done in 2013). We feel that families and professionals are not aware of this new evidence supporting DIR/Floortime and, since it matches your intervention guideline so well, we are keen that your review includes the following papers. Thank you. Solomon R. et al. (2014) PLAY Project Home Consultation intervention program for young children with autism spectrum disorders: A randomized controlled trial. Journal of Developmental and Behavioral Pediatrics. October, 35(8), pp. 475-485. Sealy J. Glovinsky I. P. (2016) Strengthening the reflective functioning capacities of parents who have a child with a neurodevelopmental disability through a brief, relationship-focused intervention. Infant Mental Health Journal. March, 37(2), pp.115-124. Casenhiser D. M. et al. (2015) Measuring and supporting language function for children with autism: Evidence from a randomized control trial of a social-interaction-based therapy. Journal of Autism and Developmental Disorders. March, 45(3), pp. 846-857. Casenhiser D. M. et al. (2013) Learning through interaction in children with autism: Preliminary data from a social-communication-based intervention. Autism. 17(2),	Thank you for your comment. We found the RCT by Solomon et al. (2014) during this 4-year surveillance review and it is included under the review question 170-10 (Appendix A.2: evidence summary document). We reviewed the studies by Sealy et al. (2016), Casenhiser et al. (2015), Casenhiser et al. (2013), and Liao at al. (2014) but results data were not reported in the abstracts. In surveillance we use particular criteria for screening studies and exclude those that do not report any results in the abstract. The lack of results does not allow us to determine any impact on guideline recommendations.

		pp. 220-241. Liao S. et al. (2014) Home-based DIR Floortime Intervention Program for preschool children with autism spectrum disorders: Preliminary findings Physical and Occupational Therapy in Pediatrics. November, 34(4), pp. 356-367.	
BrainTrainUK	Disagree	We disagree that the guidelines should not be updated because we see no evidence that neurofeedback has been properly assessed as an intervention. There is also evidence contrary to the statement in the current guidelines "Do not use neurofeedback to manage speech and language problems in children and young people with autism". There is a strong body of evidence that demonstrates the ability of Neurofeedback (NF) to use the brain's inherent plasticity to change the electrical patterns in the brain in response to feedback. There is also strong evidence that differences in the electrical patterns in the brain correlate with differences in cognitive and behavioral function, including many of the symptoms associated with ASD. We can supply copies of relevant literature if the Committee is not familiar with this research. We believe this evidence alone, together with growing clinical evidence of NF being applied to ASD, merits Neurofeedback being available for ASD. In addition to this, below we have summarised some key research in this area **specific to subjects who have a diagnosis of ASD.** A 2010 literature review[1] assessed 5 separate studies which in total reported **180 ASD individuals receiving NF training.** The authors concluded "We view **neurofeedback** as an intervention that may prove to be efficacious in the treatment of symptoms of autism. Presently, **it should be viewed as possibly efficacious with potential** and would then be **in the same category as most interventions used with this challenging population."** A 2010 RCT[2] involved 20 children age 8-12 diagnosed with autism were randomly assigned to a neurofeedback group and a control group. The neurofeedback group had 40 x 21min sessions of neurofeedback. Parents of the NF group reported **significant improvements in reciprocal social interactions and communication skills.** EEG analysis showed **60% of those receiving neurofeedback reduced Theta waves in anterior cingulate cortex** (ACC) known to be involved in social & executive dysfunctions in autism. Journal of Neurotherapy. A 2013 study[3] compared brain connectivity network analysis derived from the EEG	Thank you for your comment. We did not find new evidence on the use of neurofeedback for autism during this 4-year surveillance review. During a 4-year surveillance review of the NICE guidelines, we search for systematic reviews and randomised controlled trials to identify new evidence that could have an impact on current recommendations. The search period for this review was from January 2013 to January 2016. Most of the studies that you referred to were published before January 2013 and therefore could not be considered. The study by Jamal et al. (2013) was published within the search period of this 4-year surveillance review but results data were not reported in the abstract. In surveillance we use particular criteria for screening studies and exclude those that do not report any results in the abstract. The lack of results does not allow us to determine any impact on guideline recommendations.

		(electroencephalogram) of 11 ASD and 12 control group children under fear, neutral and happy face stimuli. They found **Children with autism have a different modularity of such networks from typical children.** A 2007 controlled trial[4] conducted 20 sessions of Neurofeedback for 37 patients with ASD. The experimental and control groups were matched for age, gender, race, handedness, other treatments, and severity of ASD. The NF group had **89% success rate** improving ASD symptoms, **40% reduction in core ASD symptomology (ATEC scores), 76% reduction in hyper-connectivity.** In a 2002 controlled trial[5] twenty-four autistic children were divided into two groups, matched by sex, age, and disorder severity. One group received neurofeedback training and the second acted as a control group. The NF group had an **ATEC score reduction of 26%** on average compared with 3% in control group. Parents reported improvements in all behavioural categories assessed. In a 2009 trial[6] parents reported improvements in social interaction & communication skills after a group of seven autistic children diagnosed with autism spectrum disorders (ASD) received a neurofeedback treatment that aimed to improve their level of executive control. The NF group showed **significant improvements in attentional control, cognitive flexibility & goal setting.** This study was followed up[7] 12 months later and the authors found **maintenance of improvement of executive functions and social behavior after 12 months.** In a 15-year clinical outcome study[8] published in 2010, between 40–60 sessions of neurofeedback, combined with training in metacognitive strategies and, for most older adolescent and adult clients, biofeedback, resulted in an **average 9 points IQ score increase, decrease in difficulties with attention, anxiety, social functioning plus improved academic and intellectual functioning.** 1. Coben, R., & Myers, T. E. (2010). The relative efficacy of connectivity guided and symptom based EEG biofeedback for autistic disorders. Applied psychophysiology and biofeedback, 35(1), 13-23. 2. Kouijzer, M. E., van Schie, H. T., de Moor, J. M., Gerrits, B. J., & Buitelaar, J. K. (2010). Neurofeedback treatment in autism. Preliminary findings in behavioral, cognitive, and neurophysiological functioning. Research in Autism Spectrum Disorders, 4(3), 386-399. 3. Jamal, W.,et al (2013) Using brain connectivity measure of EEG synchrostates for discriminating typical and Autism Spectrum Disorder. 6th International	

		IEEE/EMBS Conference in Neural Engineering (pp. 1402-1405). 4. Coben, R., & Padolsky, I. (2007). Assessment-guided neurofeedback for autistc spectrum disorder. Journal of Neurotherapy, 11(1), 5-23. 5. Jarusiewicz, B. (2002). Efficacy of neurofeedback for children in the autistic spectrum: A pilot study. Journal of Neurotherapy, 6(4), 39-49. 6. Kouijzer, M. E., de Moor, J. M., Gerrits, B. J., Congedo, M., & van Schie, H. T. (2009). Neurofeedback improves executive functioning in children with autism spectrum disorders. Research in Autism Spectrum Disorders, 3(1), 145-162. 7. Kouijzer, M. E., de Moor, J. M., Gerrits, B. J., Buitelaar, J. K., & van Schie, H. T. (2009). Long-term effects of neurofeedback treatment in autism. Research in Autism Spectrum Disorders, 3(2), 496-501. 8. Thompson, L., Thompson, M., & Reid, A. (2010). Neurofeedback outcomes in clients with Asperger's syndrome. Applied psychophysiology and biofeedback, 35(1), 63-81.	
ESPA RESEARCH	Disagree	Several lines of experimental evidence have emerged in the intervening period including: 1. Exercise intervention pertinent to behavioural outcomes (Bremer E. et al. A systematic review of the behavioural outcomes following exercise interventions for children and youth with autism spectrum disorder. Autism. 2016. Jan 28: pii: 1362361315616002). Various specific interventions have been included under the term 'exercise' and 'physical activity' (Bahrami F. et al. The Effect of Karate Techniques Training on Communication Deficit of Children with Autism Spectrum Disorders. J Autism Dev Disord. 2016 Mar;46(3):97886). 2. The use of methyl B12 intervention (Hendren RL. et al. Randomized, PlaceboControlled Trial of Methyl B12 for Children with Autism. J Child Adolesc Psychopharmacol. 2016 Feb 18). Set within a larger scheme of research where vitamin B12 may be pertinent to 'some' autism (AlFarsi YM. et al. Low folate and vitamin B12 nourishment is common in Omani children with newly diagnosed autism. Nutrition. 2013 Mar;29(3):53741) and may intersect with other issues (Pu D. et al. Association between MTHFR gene polymorphisms and the risk of autism spectrum disorders: a metaanalysis.	Thank you for your comment. We reviewed the studies you referred to but five studies (Bremer et al. 2016, Bahrami et al. 2016, Al-Farsi et al. 2013, Wang et al. 2016, Saad et al. 2015) did not report results data in the abstract. In surveillance we use particular criteria for screening studies and exclude those that do not report any results in the abstract. The lack of results does not allow us to determine any impact on guideline recommendations. During a 4-year surveillance review of the NICE guidelines, we search for systematic reviews and randomised controlled trials to identify new evidence that could have an impact on current recommendations. However, two studies that you referred were not systematic reviews or randomised controlled trials but a literature review and a case study (Mazahery et al. 2016, Jia et al. 2015). Therefore, these studies did not meet the inclusion criteria to add them in the surveillance review. We also found that five studies were relevant for NICE guideline CG128. However, some of them published out of the search period (Pu et al. 2013, Cao et al. 2013, Mazurek et al. 2013) for the surveillance review of NICE guideline CG128 or did not report relevant data in the abstract (Fulceri et al. 2016) or were already included as evidence

		Autism Res. 2013 Oct;6(5):38492) and revised guidance may be indicated. 3. Theatre intervention pertinent to behavioural outcomes (Corbett BA. et al. Improvement in Social Competence Using a Randomized Trial of a Theatre Intervention for Children with Autism Spectrum Disorder. J Autism Dev Disord. 2016 Feb;46(2):65872). 4. Vitamin D screening and intervention (where deficiency/insufficiency is noted) (Mazahery H. et al. Vitamin D and Autism Spectrum Disorder: A Literature Review. Nutrients. 2016 Apr & .Wang T. et al. Serum concentration of 25hydroxyvitamin D in autism spectrum disorder: a systematic review and metaanalysis. Eur Child Adolesc Psychiatry. 2016 Apr;25(4):34150). Evidence is still limited insofar as the effectiveness of vitamin D supplementation 'for' behavioural presentation, but some reports have been made (Jia F. et al. Core symptoms of autism improved after vitamin D supplementation. Pediatrics. 2015 Jan;135(1):e1968). potentially reflective of a requirement for further investigations. 5. Gastrointestinal (GI) issues presenting alongside autism and the potential behavioural 'knockon' effects if and when treated (Fulceri F. et al. Gastrointestinal symptoms and behavioral problems in preschoolers with Autism Spectrum Disorder. Dig Liver Dis. 2016 Mar;48(3):24854). Various lines of evidence pertinent to treating such GI symptoms (whether directly or peripherally) have highlighted a relationship with behaviour (Saad K. et al. A Randomized, Placebocontrolled Trial of Digestive Enzymes in Children with Autism Spectrum Disorders. Clin Psychopharmacol Neurosci. 2015 Aug 31;13(2):18893. & Cao X. et al. Characteristics of the gastrointestinal microbiome in children with autism spectrum disorder: a systematic review. Shanghai Arch Psychiatry. 2013 Dec;25(6):34253 & McElhanon BO. et al. Gastrointestinal symptoms in autism spectrum disorder: a metaanalysis. Pediatrics. 2014 May;133(5):87283). Further investigations are required on the link between GI issues and other issues such as anxiety (Mazurek MO. et al. Anxiety, sensory overresponsivity, and gastrointestinal problems in children with autism spectrum disorders. J Abnorm Child Psychol. 2013 Jan;41(1):16576).	(McElhanon et al. 2014) for the 6-year review surveillance of NICE guideline CG128. The studies by Hendren et al. (2016) and Corbett et al. (2016) have been added under review question 170-10 in Appendix A.2: evidence summary document. It was considered that these studies were unlikely to change guideline recommendations on psychosocial and dietary interventions for the core features of autism.

Centre for Behaviour Analysis, Queen's University Belfast	Disagree	A large amount of research was not included in the present version of the CG170, that would affect the recommendations. This research uses largely single system research design as recommended by What works Clearing House (IES, 2010) and focusses largely on the effectiveness of various procedures that are based on the application of behaviour analysis (ABA). ABA based procedures are considered the 'Gold Standard' in USA (NAC, 2009, 2015) and Canada (Motiwala, Gupta, Lilly, Ungar, & Coyte, 2006; Perry & Condillac, 2003), so much so that they are now considered "Treatment as usual". This is clearly not the case in the UK because this massive body of research has not been considered in CG170. Consequently, there is a huge differential in the long-term outcomes between the UK (Howlin, Goode, Hutton, & Rutter, 2004; Howlin, Savage, Moss, Tempier, & Rutter, 2014) and the USA (Fein et al., 2013; Orinstein et al., 2014; Troyb et al., 2014) that has clearly been linked to early intervention (i.e., ABA-based Intensive Early Intervention (EIBI)) by both Howlin's team as well as Fein and colleagues. A review of CG170 that fully embraces recommendations with regards to ABA-based interventions would serve thousands of children in the UK. It would be highly likely that adult outcomes would be positively affected by such a recommendation. A review of CG170 must be conducted. Furthermore, it must include a Board Certified Behaviour Analyst (BCBA; www.bacb.com) on the writing team, so as to avoid any misrepresentation of the science of behaviour analysis that have been rife in previous governmental reports (cf. the need for revisions in 2010 of Scottish Autism Tool Box). It is suggested that the team request a nominee from the UK Society of Behaviour Analysis and/or the European Association for Behaviour Analysis, and/or the Association of Professional Behaviour Analysts. The omission of recommendations for behaviour analytic interventions, including functional behaviour assessments, runs contrary to NG11, where these kinds of recommendation are included. Given that challenging behaviours are frequently co-occurring with autism, this omission is particularly noticeable.	Thank you for your comment. NICE clinical guidelines are based on the best quality evidence and are developed according to rigorous and robust methodologies. ABA has not been recommended because most of the evidence comes from single-case experimental designs which have limitations like the restriction of generalisation to wider population and the high risk of publication bias. During guideline development, there was evidence from RCTs and systematic reviews about psychosocial interventions to improve the core features of autism. However, none of this evidence was about ABA. During the 4-year surveillance review, we found a study evaluating ABA. This evidence has been included under review question 170-10 (Du et al. 2015) in Appendix A.2: evidence summary document. This pilot RCT showed a positive effect with the use of bumetanide together with ABA on overall autistic behaviours compared to ABA alone. However, bumetanide is not licensed for use in autism and it is used as a diuretic (loop diuretic) but not recommended for children under 12 years. Therefore, it was considered that this evidence was unlikely to have an impact on current recommendations. Regarding NICE guideline NG11, this guideline is specific for people with learning disabilities whose behaviour challenges. Therefore, NICE guideline NG11 will be added under recommendation 1.7.1 of NICE guideline CG170 which includes a list of NICE guidance for the management of coexisting problems.
South West Yorkshire Partnership NHS Foundation Trust	Agree		Thank you for your answer.

Royal College of Nursing	Disagree	The current NICE guidance misses the important role and evidence base that Applied Behaviour Analysis has and the positive contribution this can make to the lives of young people with autism. We note the reference to the reference to ABA in combination with pharmacological intervention. Having reviewed the studies identified and completed since 2013, we would concur that although the surveillance report confirms practices already included in the existing guidelines there is little in terms of adequate evidence to suggest a change is necessary at this time. We would, however, ask that NICE keep a watchful brief on the development of evidence particularly that relating to Applied Behaviour Analysis.	Thank you for your comment. NICE clinical guidelines are based on the best quality evidence and are developed according to rigorous and robust methodologies. ABA was not recommended in the guideline because most of the evidence comes from single-case experimental designs which have limitations like the restriction of generalisation to wider population and the high risk of publication bias. During guideline development, there was evidence from RCTs and systematic reviews about psychosocial interventions to improve the core features of autism. However, none of this evidence was about ABA. During the 4-year surveillance review, the study evaluating ABA was included under review question 170-10 (Du et al. 2015) in Appendix A.2: Evidence summary document. This pilot RCT showed a positive effect with the use of bumetanide together with ABA on overall autistic behaviours compared to ABA alone. However, bumetanide is not licensed for use in autism and it is used as a diuretic (loop diuretic) but not recommended for children under 12 years. Therefore, it was considered that this evidence was unlikely to have an impact on current recommendations. This area will be examined again at the next surveillance review of NICE guideline CG170.
Royal College of Psychiatrists	Agree	The Royal College of Psychiatrists sees no need for the revision of the guidelines at present.	Thank you for your answer.
Former member of CG170 GDG (and Northumberland, Tyne & Wear NHS Trust; Newcastle university)	Disagree	NG needs updating re inclusion of DSM5 criteria throughout. Also although the studies highlighted in the recent evidence update on the whole concurred with the recommendations in the published CG170, there is not sufficient emphasis in CG170 in my opinion on co-ordination of delivery of interventions for both core characteristics of ASD and treatment of co-occurring conditions, across different settings. This is especially in relation to delivery of treatments in educational settings, and use of combinations of approaches (and indeed settings) to facilitate generalisation of skills across settings. Evaluation of these approaches together with how to individualise therapy delivery and also use of different vehicles for delivery of therapies, is currently underway. However in terms of accepted best practice, the relevance of careful consideration and range of social settings (such	Thank you for your comment. The DSM-5 criteria are already included in the full version of the NICE guideline CG170. We are also doing a surveillance review of the NICE guideline CG128 which will be updated in light of the introduction of DSM 5. We reviewed the studies by Clarke et al. (2016) and Vismara et al. (2016) but results data were not reported in the abstracts. In surveillance we use particular criteria for screening studies and exclude those that do not report any results in the abstract. The lack of results does not allow us to determine any impact on guideline

		as working with parents & carers together with schools) would be considered accepted best practice and so should be included in guidelines of best practice. In relation to schools as well as interventions for core symptoms of ASD such as use of social stories, LEAP and other educational interventions (such as TEACCH, Lego therapy etc), there are studies delivering for example CBT for anxiety (new study just published Clarke, Hill & Charman 2016 in special issue of JADD). There is also emerging evidence for use of other technologies such as new paper on other forms of delivery such as use of telehealth for delivery of ESDM (Vismara et al 2016). As yet of course there is not the body of evidence that can be considered using systematic reviews and/ or meta-analyses, but as the CG170 recommendations included recommendations from GDG members, it is relevant that multiagency working and delivery of interventions in other settings especially in schools is now widely available.	recommendations. Recommendation 1.1.3 of NICE guideline CG170 already recommends that a local multidisciplinary team should assess, manage and coordinate the care for children and young people with autism. No new evidence was identified through the surveillance review that would impact on this recommendation.
Optical Confederation, Local Optical Committee Support Unit and SeeAbility	Disagree	We note that the guidelines suggest that it is ensured that there is equality of access to health care services for children and young people with autism. We also note that mention is made of providing visual supports e.g. words, pictures or symbols that are meaningful to an individual to reinforce communication. The findings in the SeeAbility Children in Focus Campaign second year report—https://www.seeability.org/uploads/files/Children_in_Focus_campaign/CiF-full-report-2016.pdf— show that 75% of children who had no history of previous sight tests had autism. These early results lead us to believe that there is a risk of under detection of sight problems in children and young people with autism. Any undetected visual problem may in turn lead to inappropriate means of communication being used by many people working with and caring for these children, and also their refractive errors remaining uncorrected. It may be helpful to add further emphasis on the need to establish the visual status of children and young people with autism in these guidelines.	Thank you for your comment. The scope of the NICE guideline CG170 does not cover evaluation of visual status of children and young people with autism. However, NICE guideline CG128 recommends considering differential diagnosis for autism as part of the diagnostic assessment including severe visual impairments (see recommendation 1.5.7).
ABA4All	Disagree	NICE CG170: Review Submission from parent campaign group ABA - Access4All The ABA - Access4All campaign is a parent-led campaign to improve access to ABA for autistic and other developmentally-delayed children in the UK. We have raised charitable funding to retain counsel and the firm Bindman's, who are	Thank you for your comment. During the development of the guideline and the surveillance reviews, all available and relevant evidence was searched for systematically. During guideline development, there was evidence from RCTs and

		currently bringing two Judicial Review proceedings. The campaign now has just shy of 4000 people following the Facebook campaign and continues to attract media coverage. The following submission is signed by 90 UK parents of autistic children (names on request). We on the ABAA4All campaign would be appalled if NICE did not review this flawed and wholly ineffective piece of autism guidance. There can surely be a no more waffly, unhelpful and inconclusive piece of guidance anywhere else on NICE's books, for any other condition (and autism is the UK's single costliest condition, *Knapp, LSE 2014*). In particular, we believe NICE CG170 needs to be looked at again with a more realistic attitude to the existing research base for autism interventions - particularly ABA. The Recommendations you make (11.1, page 720) are quite vague and leave parents and commissioners with few clear strategies or pathways to help children with autism. Who are the members of the 'multidisciplinary teams' or 'multi agency strategy groups' you refer to? We see no behaviour analysts on them, for instance, and our parental observation is that there are lots of folks wafting around our children who seem to have only vague, generic 'training' to back up what they tell us. There is little focus on good outcomes for our children out here in the real world, where 'multi disciplinary' teams and 'eclectic' therapies add up not to breadth but to a dog's dinner and diffuse accountability. 'Case managers' are often not specialists at all but simply Local Authority admin staff. We know that you give only guidance and do not dictate the detail to CCGs, but in reality the vacuum CG170 has created means that there is little professional help coming our children's way. It's a bit of a mess out here. And what too are the 'psychosocial' interventions you describe in the Recommendations; more importantly, who should deliver them? Anyone who happens to be around and already on staff? We think these interventions are pretty much ABA but you do not specify that they should be delivered by those competent to analyse behaviour properly, leaving us parents at the mercy of cost-cutting and amateurism. Your recommendations are high on lofty polysyllables, but low on specificity. The vagueness reaches its nadir at 11.7.10 (page 730) where the 'recommendation' given for Speech and Language problems - surely by any reckoning one of autism's key deficits - is simply two "Do Not's" and no "Do's". It's	systematic reviews about psychosocial interventions to improve the core features of autism. However, none of this evidence was about ABA. Furthermore, ABA was not recommended in the guideline because most of the evidence comes from single-case experimental designs which have limitations like the restriction of generalisation to wider population and the high risk of publication bias. Regarding recommendation 1.1.1, the full version of NICE guideline CG170 describes the kind of professionals and agencies that can be needed to provide care for children and young people with autism (see page 28). Although behaviour analysists are not mentioned, the list is not designed to be comprehensive or limited. NICE guideline CG170 recommends that interventions should be delivered by trained professionals (recommendation 1.3.1). The full version of NICE guideline CG170 describes the psychosocial interventions included in recommendation 1.3.1 which are mainly social-communication interventions (see section 6.5 From evidence to recommendations, page 340). Regarding recommendation 11.7.10 in the full version of NICE guideline CG170 (recommendation 1.6.1 on the online NICE version), there is an explanation on why specific interventions for speech and language problems are not recommended (see section 8.3.9 From evidence to recommendations – interventions aimed at speech and language, page 531). Regarding NICE guideline NG11, this guideline will be added under recommendation 1.7.1 of NICE guideline CG170 which includes a list of NICE guidance for the management of coexisting problems. Unfortunately we could not review the recent research studies that you suggested because there is not a citation and the links cannot be opened. Regarding your request in the summary: We did a search for new evidence looking at different aspects of support and management of autism in children and young people. However, we only found one study evaluating ABA. This evidence has been included under review question 170-10 (Du et al. 2015) in

		not a piece of Clinical Guidance but a Non-Guidance. We realise why you have ended up recommending very little (your GRADE system) but we can't afford to wait for the research world to catch up with your ill-fitting criteria: our kids with autism are here now, needing help! Your insistence on applying the same RCT standards of research to autism as you apply to other conditions is problematic in 3 ways: 1) there are not enough RCTs in the autism field, no-one is ploughing enough money into them. Surely commonsense dictates you therefore need to look at the next rung down in research terms?; 2) one of the reasons for 1) is that RCTs are so complex to deliver, given that no two autistic kids are the same, all falling at different points on several different axes (IQ, verbal ability, impaired social sense, co-occurring conditions, sensory defensiveness or seeking, rigidity, repetitive behaviours etc); and 3) and who nowadays wants to put their child on a 3 year 'eclectic' program when it is becoming increasingly clear to us parents that ABA is the gold standard in much of the rest of the developed world (including 44 out of 50 US states and the entire US federal government - 8 million employees - which have mandated its coverage by insurers)? How can you randomise or 'blind' autism studies in an Internet world, with savvy parents who research and talk to each other? *Dodging the ball* In addition, CG170 has turned a blind eye to existing NHS practice on autism. The status quo with regards to autism is that the NHS is routinely financing Speech and Language Therapy (SALT) and Occupational Therapy (OT) once autism is diagnosed. Yet you will find no RCT to show that either discipline can help remediate the deficits of autism (perhaps a tiny bit of evidence for PECs, which is of course ABA-based speech therapy). The NHS-accredited Information Standard charity, Research Autism, acknowledges this lack of evidence in its section on Allied Health Professionals (http://researchautism.net/autism-interventions/types/standard-health-care/allied-health-professionals-and-autism). You will not even find any of the next level down of research evidence, eg single case studies or systematic reviews, for SALT and OT, yet such evidence abounds for ABA. Why is the NHS paying for the less-evidenced therapies and not ABA? And why are you remaining silent on that point? You are potentially misleading the public by not giving proper evaluation of what taxpayers' money is presently being spent on for autism. You are dodging the ball.	Appendix A.2: Evidence summary document. This pilot RCT showed a positive effect with the use of bumetanide together with ABA on overall autistic behaviours compared to ABA alone. However, bumetanide is not licensed for use in autism and it is used as a diuretic (loop diuretic) but not recommended for children under 12 years. Therefore, it was considered that this evidence was unlikely to have an impact on current recommendations.

		In any other condition, to not actually scrutinise existing NHS practice for effectiveness would be regarded as a huge failing. Why are you not pulled up on this for autism? The presence of a SALT and an OT on the GDG (though no ABA professional) does not fill us with confidence of a fair hearing on this point. *Same kids, different recommendations* In addition, there are now discrepancies creeping in to your attitudes to autism vis-a-vis other developmental delays. This is particularly evident in your section on Challenging Behaviour (7.7.1, page 438). As you know, autism co-locates with Learning Disability in around 50% of cases. Yet in NG11 you talk of the need for behaviour analysts when challenging behaviour is hard to handle in those with a Learning Disability (LD). Why not then for those with both autism and LD, like my own son? Why the two different approaches? When my boy used to hit himself in the head he didn't stop and say 'Mummy it's the autism this time, not the LD, move away from NG11 and consult CG170' ! (We note anyway that there is a poor-to-non-existent process out here for diagnosing LD, so the point is often moot and our kids will be treated under the autism diagnosis as primary, as no-one will have properly analysed the LD. Until the eclectic school system fails to teach them anything, at which point we will be told sorrowfully by a school teacher (not diagnostically trained) that the child should go to an 'SLD school'. When behaviour breaks down completely, or violence is present, an ATU may beckon - at huge cost to the state and heartache for the family. The system is haphazard, not data-driven and not evidence-based). In the autism section on challenging behaviour (7.7.1, page 438) you simply refer to 'senior colleagues' who are to be consulted when behaviours don't respond to initial efforts. Who are they? What is their training? We think it needs to be in behaviour analysis, but again you fudge it and refer back to a 'multi disciplinary review'. But this is simply a cop-out: 'multi-disciplinary' out here in the real world of autism means - if you are lucky - a SALT, an OT, a Local Authority admin bod and perhaps a Clinical or Educational Psychologist. Even the two latter professionals come nowhere close to a BCBA for the ability to understand behaviour and recommend strategies. Clinical or Ed Psychs may have done a short undergraduate module on behaviour; BCBAs have a masters in the subject and 1500 hours of fieldwork. There are now 5 UK universities offering the ABA MSc. You cannot bodge this stuff, or put the wrong professionals in charge, it is too	

		important. There is prejudice built into the system against ABA, perhaps people are protecting the status quo and their own jobs? We realise you will often revert back to the point that behaviour analysts are not HCPC-registered, but you will be aware that this door is now closed to new professions so - unless NICE can exert influence on the HCPC - this is a criticism of ABA that the profession can do nothing to rectify. *New Research* Unsurprisingly we think ABA deserves a closer look not just for RCT evidence but also for the next level of research down, and indeed there have been two UK school-based research studies published since the first CG170 (Treehouse, Gogarth, see below) showing that ABA has gained UK traction since 2013. Many many families (ABAA4All estimate: 3000) are receiving funding for ABA, either at home or within schools, though usually only those who have been rich enough to take their case to law. There's effectively a two-tier system in play, whereby the poor are getting virtually zero early intervention for their children with autism and certainly none that is evidence-based (a grim scenario in a country with the NHS.) Other evidence has been published which continues to rank ABA more highly than did CG170 - see list below. And indeed the forthcoming SIGN guidelines from Scotland, albeit still in draft form, look set to rank the evidence base for ABA very highly. The phase 2 National Standards Project from the US also finds ABA again to have the strongest evidence base of all interventions for autism, with 14 ABA strategies evaluated as evidence-based. 44 out of 50 US states now mandate that state insurance should cover ABA. 17 states now cover it on Medicaid for those without insurance. Many global corporations - Microsoft, Credit Suisse, Bank of America etc - offer it on their worldwide company health plans (though leave British employees off the list because they know insurers are not expected to cover autism at all in this country, such is the dire situation you are helping to perpetuate). Recently the US government made ABA coverage compulsory under insurance for its 8 million Federal Employees. How can recommendations about ABA be so out of step here in the UK? Ideological bias? Lack of ABA professionals on key groups like the CG170 GDG, despite such groups always hosting a SALT/OT professional presence? There needs to be a seat at the table for ABA, not just for those who have always been at the table before. NICE is preserving a broken status quo. http://www.sign.ac.uk/consultation/index.html	

		Important 2015 study under Prof Tristram Smith shows ABA's improving evidence base https://t.co/X0gJbGRB25 ABA gets results in UK school, Treehouse: https://www.dropbox.com/s/qmb283jegbmcsdp/Katy%20Lee%20BJSE%202015.pdf?dl=0 ABA gets results in UK school: Ysgol y Gogarth https://www.dropbox.com/s/rdhm2vxvkv8wc3r/Foran%202015%20BJSE.pdf?dl=0 This major new JAMA Randomised study seems to suggest early retirement for Early Bird in favour of ABA parent training http://t.co/3CgZ1PkD3K New research shows ESDM - Early Start Denver Model, based on ABA - works long term too, with early gains sustained http://t.co/NjvwhYISIR US National Standards Project: huge study shows ABA evidence-based therapy http://www.nationalautismcenter.org/national-standards-project/phase-2/ ABA gains last: study into effects of ESDM 2 years later (ESDM = Early Start Denver model, ABA plus early developmental curriculum . http://t.co/VtoX7f1Ev8 2014 ABA Research, Ontario Canada. https://t.co/P638ECOyir Behavioural interventions come out very well in new research into sleep difficulties. #ABAnotdrugsplease... https://t.co/YV5DSgf4Pb ABA comes out well in several categories a 5-year study commissioned from the University of Manchester by Ireland's NCSE .. https://t.co/g3NNYQpCwH *Autism waffle* We think you may feel it is ok to be vague on staff-training as there is a wholly non evidence-based malaise springing up around autism in this country, fuelled by charities and organisations that are going too far down the 'difference not disability' path and arguing themselves out of the need for any intervention at all. There seems to be a feeling that it is somehow 'against autism' to try and 'change' (aka teach) a child how to behave in more pro-social ways. There is an underlying implication that this is 'normalising' and an undercurrent of feeling that parents wanting more than babysitting are 'pushy'. This is inverted prejudice and is clearly failing many, particularly at the more severe end of the spectrum, whose autism presents them with very real challenges to attaining a decent quality of life. Up to 4000 parents and family members on the ABA - Access4All campaign would argue that without early ABA, their children would have remained non-verbal, or	

		self-injurious, or aggressive, or without the ability to use a toilet, or unable to read. The list goes on. The sub-standard care in early years is sending many kids in their teens into residential care when parents can no longer cope; this in turn is leading to a UK social care bill of £29 bn a year for lifelong autism adult care (Knapp, LSE 2014). And not even very good care, as it turns out from the many petitions and scandals we are seeing from parents of autistic kids in hospitals or ATUs. *Something has to give* We need an early intervention autism strategy in the UK, via a joined-up NHS and education initiative. We then need an increase in the use of ABA in our mainstream and special schools. ABA uptake in schools (mainstream and special) has actually increased a great deal since you first published CG170 back in 2013, and indeed there are now nearly equal numbers of children educated in ABA schools as there are in NAS schools (ABAA4All figures, May 2016) but we need further help from NICE. *Shutting stable doors after horses have bolted* Already the NHS is switched on to the need for PBS (which is based on ABA) in adult care. Indeed there is a fair bit of NHS money being ploughed into PBS presently, particularly post scandals such as Winterbourne View. But come on, stable doors/horses bolting and all that. Get in early, give our children the skills for a better quality of life early not late. *Two requests* In summary, we have two asks: A) re-evaluate CG170 using the research that actually exists, not pie-in-the-sky, and with a more ambitious attitude to what children with autism can achieve; and B) give a fairer rating to ABA, across all ages, such that we parents who want to exercise our parental choice and choose this gold standard therapy are not fobbed off with 'sorry NICE does not recommend it'. Please acknowledge its evidence base, in particular as compared to other interventions currently on offer via the NHS in the UK. Thank you Jane McCready Www.facebook.com/ABAaccess4all	

		Sent from my iPhone	

Do you agree with the proposal to remove the research recommendation:

What is the value of a key worker approach (defined by protocol and delivered in addition to usual care) for children and young people with autism in terms of parental satisfaction, functioning and stress and child psychopathology?

Stakeholder	Overall response	Comments	NICE response
Ulster University	Disagree	Effective early intervention using Applied Behaviour Analysis relies very heavily on a range suitably qualified professionals, including parents themselves. Key workers who work hand in hand with parents need appropriate training. If this training is missing it impacts on the outcomes of any intervention. Recommendations for research should quantify the levels of effectiveness between keyworkers with different background training standards.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance. Although we can suggest removing research recommendations, we cannot suggest any new additions. New additions can only be proposed by guideline committees during guideline development, including updates.
ESPA RESEARCH	Agree		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
Centre for Behaviour Analysis, Queen's University Belfast	Disagree	Key workers are a necessary support for these families and it is a promising area of research.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
South West Yorkshire Partnership NHS Foundation Trust	Disagree	Such research may be important in order to identify whether or not a key worker approach is beneficial in providing service users with a clear point of contact for advice/signposting, particularly in the context of ongoing pressure upon service capacity and reorganisations.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
Former member of CG170 GDG (and Northumberland, Tyne & Wear NHS	Disagree	PLEASE NOTE- the questions we are being asked to comment on is not whether the research recommendations should be revised or updated in light of research findings over last 5 years but simply whether these particular research recs should be removed. Although in my opinion, this seems to be a missed opportunity to	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance. Although we can suggest removing research recommendations, we

Trust; Newcastle university)		update the research recs., I have answered the questions as posed. According to the review update NO research findings have been identified to answer this research question? This is an important question for all stakeholders (affected individuals , families, service providers and commissioners)- perhaps especially commissioners of services who need to understand whether commissioning Key workers would provide value for money or not. Change in service provision and delivery such as introduction of key worker model, would need to be commissioned specifically by CCGs to ensure implementation, if found to be effective.	cannot suggest any new additions. New additions can only be proposed by guideline committees during guideline development, including updates.
ABA4All	Don't care. Useless		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.

Do you agree with the proposal to remove the research recommendation:

Is a sleep hygiene intervention or melatonin clinically and cost effective in the management of sleep onset, night waking and reduced total sleep in children (aged 4–10 years) with autism?

Stakeholder	Overall response	Comments	NICE response
Ulster University	Disagree	What's wrong with doing a cost effectiveness of different interventions? Parents who do not get proper sleep are seriously disadvantaged in their ability to handle stress. The cost of lost sleep to parents should be included in any research on cost effectiveness.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
ESPA RESEARCH	Agree		Thank you for your answer.
Centre for Behaviour Analysis, Queen's University Belfast	Disagree	Cost-effectiveness studies that compare behavioural vs pharmaceutical interventions are welcome and necessary.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
South West Yorkshire Partnership NHS	Agree		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.

Foundation Trust			
Former member of CG170 GDG (and Northumberland, Tyne & Wear NHS Trust; Newcastle university)	Disagree	Again this is still an important research question which as far as I am aware has not been answered. For this reason the research question should not be removed. The wording could be revised?	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance. Although we can suggest removing research recommendations, we cannot suggest any amendments or new additions. New additions can only be proposed by guideline committees during guideline development, including updates.
ABA4All	Disagree	Really big issue for parents	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.

Do you agree with the proposal to remove the research recommendation:

What is the comparative clinical and cost effectiveness of pharmacological and psychosocial interventions for anxiety disorders in children and young people with autism?

Stakeholder	Overall response	Comments	NICE response
Ulster University	Disagree	I am totally bemused at the suggestion that such research should not be conducted. If drugs can be avoided then research should be encouraged to see what is possible.	Thank you for your comment. We are not suggesting that this research should not be conducted. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
ESPA RESEARCH	Agree		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
Centre for Behaviour Analysis, Queen's University Belfast	Disagree	Cost-effectiveness studies that compare behavioural vs pharmaceutical interventions are welcome and necessary.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.

South West Yorkshire Partnership NHS Foundation Trust	Agree		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
Former member of CG170 GDG (and Northumberland, Tyne & Wear NHS Trust; Newcastle university)	Disagree	At a time when the need to undertake a comprehensive high quality RCT to evaluate the relative clinical and health economic cost effectiveness of psychosocial and psychopharmacological interventions , used separately or in combination, is so urgently needed, this is not in my opinion the right time to remove this research recommendation. NICE research recs should inform and guide UK research funders in relation to priority topics. This is especially true for treatment of anxiety. At present the emphasis is on CBT but the role of medication and other forms of delivery of psychosocial interventions needs careful consideration and evaluation in individuals with ASD across the age and ability range.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
ABA4All	Disagree		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.

Do you agree with the proposal to remove the research recommendation:

Are comprehensive early interventions that combine multiple elements and are delivered by parents and teachers (for example, the Learning Experiences – an Alternative Program for Preschoolers and their Parents [LEAP] model) effective in managing the core symptoms of autism and coexisting difficulties (such as adaptive behaviour and developmental skills) in pre-school children?

Stakeholder	Overall response	Comments	NICE response
Ulster University	Disagree	This research should be conducted but there should be clear indications that ABA is not regarded as an intervention but as a science upon which many commercially presented interventions are based. If NICE corrects its understanding of ABA, as it should on ethical grounds, then the effect on future research will be enhanced because different standards would be put in place regarding the assessment of commercially focused applications of this science as well as branded versions that contain numerous elements.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
ESPA RESEARCH	Agree		Thank you for your answer.

Centre for Behaviour Analysis, Queen's University Belfast	Disagree	More research in comprehensive early interventions is important. Equally, research on parent implemented research is important.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
South West Yorkshire Partnership NHS Foundation Trust	Agree		Thank you for your answer. We decided to retain this research recommendation based on the overwhelming feedback on its importance.
Former member of CG170 GDG (and Northumberland, Tyne & Wear NHS Trust; Newcastle university)	Disagree	As mentioned above this is another key research question for the field of ASD intervention research. What is the evidence that has led NICE to propose this removal? I do not agree with this proposal.	Thank you for your comment. If you would like to have a look at the procedures that we follow for the removal of research recommendations, please follow this link: Research recommendations process and methods guide 2015. We were proposing to remove this research recommendation because no new relevant evidence was found since the research recommendation was first made. However, we have decided to retain this research recommendation based on the overwhelming feedback on its importance.
ABA4All	Disagree	The UK has a gaping hole where its early intervention strategy for autism should sit. NICE needs to step up.	Thank you for your comment. We decided to retain this research recommendation based on the overwhelming feedback on its importance.

Do you have any comments on areas excluded from the scope of the guideline?

Stakeholder	Overall response	Comments	NICE response
Ulster University	Yes	It is totally unacceptable on ethical grounds for a whole science (Behaviour Analysis) to be regarded as an intervention for autism and for the findings of this science to be reviewed by professionals not trained in this science. Excluding professionals with international qualifications in behaviour analysis from the review panel is a political move that is unacceptable for the unbiased practice of science.	Thank you for your comment. Although the Guideline Committee did not include professionals with an internationally recognised qualification in behaviour analysis, they were familiar with ABA. NICE clinical guidelines are based on the best quality evidence and are developed according to rigorous and robust methodologies.

			ABA was not recommended in the guideline because most of the evidence comes from single-case experimental designs which have limitations like the restriction of generalisation to wider populations and the high risk of publication bias. During guideline development, there was evidence from RCTs and systematic reviews about psychosocial interventions to improve the core features of autism. However, none of this evidence was about ABA. During the 4-year surveillance review, we only found a study evaluating ABA. This evidence has been included under review question 170-10 (Du et al. 2015) in Appendix A.2: Evidence summary document. This pilot RCT showed a positive effect with the use of bumetanide together with ABA on overall autistic behaviours compared to ABA alone. However, bumetanide is not licensed for use in autism and it is used as a diuretic (loop diuretic) but not recommended for children under 12 years. Therefore, it was considered that this evidence was unlikely to have an impact on current recommendations.
Interdisciplinary Council on Develop and Learning	No		Thank you for your answer.
BrainTrainUK	Yes	See above comments on Neurofeedback.	Thank you for your comment. We did not find new evidence on the use of neurofeedback for autism during this 4-year surveillance review, see response above.
ESPA RESEARCH	Yes	The increasing moves towards the pluralisation of autism (the so called 'autisms') reflective of the multiple types of autism that may exist or multiple pathways to autism perhaps needs further consideration in this guidance. Specific genetic issues manifesting as autism (GarcíaCazorla A. et al. Two novel mutations in the BCKDK (branchedchain ketoacid dehydrogenase kinase) gene are responsible for a neurobehavioral deficit in two pediatric unrelated patients. Hum Mutat. 2014 Apr;35(4):4707 & Ziats MN. et al. Improvement of regressive autism symptoms in a child with TMLHE deficiency following carnitine supplementation. Am J Med Genet A. 2015 Sep;167A(9):21627)	Thank you for your comment. Regarding genetic issues, NICE guideline CG128 Autism in under 19s: recognition, referral and diagnosis recommends to perform genetic tests considering individual circumstances and based on physical examination, clinical judgement and the child or young person's profile (see recommendation 1.7.1). Regarding comorbid conditions, NICE guideline CG128 recommends considering carrying out appropriate assessments and referrals if coexisting conditions are suspected (see recommendation 1.5.15). Regarding the developmental trajectory of autism, NICE guideline

		That like other inborn errors of metabolism may be treatable should be acknowledged. Such data does overlap with other guidance in terms of screening. The idea that comorbid conditions manifesting in the majority of cases of autism may be more central to both clinical presentation and outcome is also deserving of further consideration (Gillberg C. & Fernell E. Autism plus versus autism pure. J Autism Dev Disord. 2014 Dec;44(12):32746). Intervention for said comorbidity such as ADHD or depression (Andersen PN. et al. Associations Among Symptoms of Autism, Symptoms of Depression and Executive Functions in Children with High Functioning Autism: A 2 Year Follow Up Study. J Autism Dev Disord. 2015 Aug;45(8):2497507) may also potentially impact on more core autism behaviours. Developmental trajectory or rather heterogeneity in developmental trajectory could also be acknowledged in future guidance. Notions of 'optimal outcome' whether as a result of early intervention or as a feature associated with 'particular types of autism' have continued to appear in the peer reviewed domain (Moulton E. et al. Early Characteristics of Children with ASD Who Demonstrate Optimal Progress Between Age Two and Four. J Autism Dev Disord. 2016 Jun;46(6):216073) suggestive of 'remission' of clinical symptoms in some children.	CG128 recommends to consider keeping the child or young person under review, if there is uncertainty after the autism diagnostic assessment about the diagnosis (see recommendation 1.6.1). We have reviewed the study by Garcia-Cazorla et al. (2014) which is relevant for NICE guideline CG128. However, the study sample was less than 10 participants. In surveillance we follow the criteria for including studies published during the development of the guideline. The criterion for study size was more than 10 participants. We have reviewed the case study by Ziats et al. (2015) which is relevant for NICE guideline CG170. In surveillance we follow the criteria for including studies published during the development of the guideline and case studies were excluded. We have reviewed the study by Gillberg and Fernell (2014) which is relevant for NICE guideline CG128. However, the study design and results were not reported in the abstract. In surveillance we use particular criteria for screening studies and exclude those that do not report any results in the abstract. The lack of results does not allow us to determine any impact on guideline recommendations. We have reviewed the study by Andersen et al. (2015) which is relevant for NICE guideline CG170. However, results data were not reported in the abstract. In surveillance we use particular criteria for screening studies and exclude those that do not report any results in the abstract. The lack of results does not allow us to determine any impact on guideline recommendations. The study by Moulton et al. (2016) has been added under review question 128-05-b in Appendix A.1: Evidence summary document. This study supported current recommendations which state that a child or young person should remain under review if there is uncertainty about the diagnosis.
Centre for Behaviour Analysis, Queen's University Belfast	Yes	The original scope excluded studies based on Single system/case designs. 'In an effort to expand the pool of scientific evidence available for review, the What Works Clearinghouse (WWC) assembled a panel of national experts in single-case design (SCD) and analysis to draft SCD Standards…. SCDs are adaptations of interrupted time-series designs and can provide a rigorous	Thank you for your comment. NICE clinical guidelines are based on the best quality evidence and are developed according to rigorous and robust methodologies. This evidence might include different types of study designs and other information such as practitioners' expertise and testimony from people

		experimental evaluation of intervention effects (Horner & Spaulding, in press; Kazdin, 1982, in press; Kratochwill, 1978; Kratochwill & Levin, 1992; Shadish, Cook, & Campbell, 2002). Although the basic SCD has many variations, these designs often involve repeated, systematic measurement of a dependent variable before, during, and after the active manipulation of an independent variable (e.g., applying an intervention). SCDs can provide a strong basis for establishing causal inference, and these designs are widely used in applied and clinical disciplines in psychology and education, such as school psychology and the field of special education…. As experimental designs, a central goal of SCDs is to determine whether a causal relation (i.e., functional relation) exists between the introduction of a researcher-manipulated independent variable (i.e., an intervention) and change in a dependent (i.e., outcome) variable (Horner & Spaulding, in press; Levin, O'Donnell, & Kratochwill, 2003). Experimental control involves replication of the intervention in the experiment and this replication is addressed with one of the following methods (Horner, et al., 2005):' (IES, 2010, p2-3). Consequently, it is of utmost importance that Single system/case design research is fully integrated in any NICE guidelines of interventions and clinical management of conditions, where the diagnosis is based on direct or indirect behavioural observations, such as autism. UK services should no longer lag behind international best practice, e.g., in Ontario the Autism Expert Committee concluded its review of the Autism Guidelines: 'An Autism Spectrum Disorder continuum of services would, of necessity, be grounded throughout childhood by Applied Behaviour Analysis (ABA)-based approaches used by each part of the continuum: in providing school readiness and academic education, in supporting challenging or difficult behavioural responses, and in addressing emotion dysregulation, sensory distress, anxiety and other mental health concerns.' (Committee et al., 2014, p8) NICE has a responsibility to afford the same best practice to UK children who are affected by autism that they would enjoy had they been born in Ontario, lest we pay the price, e.g., with a replication of Howlin et al.'s (2014) findings in 2054 (another lost generation, 40 wasted years)! References Committee, A. S. D. C. E., Dawe, I., Roberts, W., Bisnaire, L., Boyko, K., Bryson, S. E., … Weiss, J. (2014). Autism Spectrum Disorder in Ontario 2013: An update	using services. Therefore, SCD research can be included as evidence in NICE guidelines. For questions evaluating efficacy or effectiveness of interventions, the most appropriate type of study is a randomised controlled trial. Other study types can be used if no evidence is found from randomised controlled trials. During the development of NICE guideline CG170, there was evidence from RCTs and systematic reviews about psychosocial interventions to improve the core features of autism. However, none of this evidence was about ABA. This is why ABA was not recommended. During the 4-year surveillance review, we found a study evaluating ABA. This evidence has been included under review question 170-10 (Du et al. 2015) in Appendix A.2: Evidence summary document. This pilot RCT showed a positive effect with the use of bumetanide together with ABA on overall autistic behaviours compared to ABA alone. However, bumetanide is not licensed for use in autism and it is used as a diuretic (loop diuretic) but not recommended for children under 12 years. Therefore, it was considered that this evidence was unlikely to have an impact on current recommendations.

		on Clinical Practice Guidelines and Benchmarks in Ontario. Ontario: Ministry of Children and Youth Services. Retrieved May 24, 2016, from http://www.children.gov.on.ca/htdocs/English/documents/topics/specialneeds/autism/Autism_Spectrum_Disorder_in_Ontario_2013-Autism_Spectrum_Disorder_Clinical_Expert_Committee.pdf Fein, D., Barton, M., Eigsti, I.-M., Kelley, E., Naigles, L., Schultz, R. T., … Tyson, K. (2013). Optimal outcome in individuals with a history of autism. Journal of Child Psychology and Psychiatry, and Allied Disciplines, 54(2), 195–205. doi:10.1111/jcpp.12037 Howlin, P., Goode, S., Hutton, J., & Rutter, M. (2004). Adult outcome for children with autism. Journal of Child Psychology and Psychiatry, 45(2), 212–229. doi:10.1111/j.1469-7610.2004.00215.x Howlin, P., Savage, S., Moss, P., Tempier, A., & Rutter, M. (2014). Cognitive and language skills in adults with autism: a 40-year follow-up. Journal of Child Psychology and Psychiatry, and Allied Disciplines, 55(1), 49–58. doi:10.1111/jcpp.12115 IES. (2010). Single-Case Design technical documentation: What Works Clearinghouse. What Works Clearinghouse. National Center for Education Statistics. Retrieved September 9, 2015, from http://ies.ed.gov/ncee/wwc/documentsum.aspx?sid=229 Motiwala, S. S., Gupta, S., Lilly, M. B., Ungar, W. J., & Coyte, P. C. (2006). The cost-effectiveness of expanding intensive behavioural intervention to all autistic children in Ontario: in the past year, several court cases have been brought against provincial governments to increase funding for Intensive Behavioural Intervention (. Healthcare Policy = Politiques de Santé, 1(2), 135–51. Retrieved from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2585334&tool=pmcentrez&rendertype=abstract NAC. (2009). National Standards Project: Findings Conclusions. National Autism Center. Retrieved August 26, 2014, from http://www.nationalautismcenter.org/pdf/NAC Findings & Conclusions.pdf NAC. (2015). National Standards Project (Review and update of 2009 report). National Autism Center. Retrieved April 14, 2015, from http://www.nationalautismcenter.org/national-standards-project/ Orinstein, A. J., Helt, M., Troyb, E., Tyson, K. E., Barton, M. L., Eigsti, I.-M., …	

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Optical Confederation, Local Optical Committee Support Unit and SeeAbility		No comments.	Thank you for your answer.

Do you have any comments on equalities issues?

Stakeholder	Overall response	Comments	NICE response
Interdisciplinary Council on Develop and Learning	No		Thank you for your answer.
Former member of CG170 GDG (and Northumberland, Tyne & Wear NHS Trust; Newcastle	Yes	Yes, for both CG128 and CG170, there is an emerging evidence base of the impact of certain equality issues. 1. ethnicity- there is an emerging apparently consistent literature on impact of race/ethnicity on age of diagnosis and access to and use of services (eg in African Americans and Latino cultures in USA (Mandell et al; 2009; Lopez 2013;;	Thank you for your comment. We reviewed NICE guideline CG128 Autism in under 19s: recognition, referral and diagnosis together with NICE guideline CG170. We recognised that there is evidence of factors related to age at diagnosis and access to services (such as race/ethnicity and socioeconomic

university)		centres for disease control and prevention 2016). Also there is an increasing awareness of the need to consider SES and race/ethnicity groupings when considering access to and differential use of services (Dorsett 2015; Lavelle,Weinstein & Newhouse 2014; Fountain et al 2011; Brett et al 2016). 2. Presence of other disorders especially child and adolescent mental health and other neurodevelopmental disorders such as ADHD, appears to delay diagnosis of ASD and delays access to appropriate therapeutic and educational interventions within the management and support plan for the individual child and their family (CDC 2014; Frenette et al 2013; Miodovnik et al 2015) . Recommendations to all child health and child and adolescent mental health clinicians that in children receiving early diagnosis (across the age range but perhaps especially pre-school) of for instance ADHD, there needs to be a heightened awareness of the need to consider within the differential diagnosis the possibility of a diagnosis of ASD within the assessment and treatment/ management planning framework.	status) and this evidence is mainly from the USA. Through surveillance of NICE guideline CG128 we found one study with evidence that lower socioeconomic status was a factor associated with earlier age at diagnosis in the UK (Brett et al. 2016). This study was included under review question 128-01-a in Appendix A.1: Evidence summary document. An equality impact assessment was done during the development of NICE guideline CG170. It was concluded that recommendations promoted equality (see recommendations 1.1.1 and 1.1.5). Regarding differential diagnosis, NICE guideline CG128 recommends considering carrying out appropriate assessments and referrals if coexisting conditions are suspected (see recommendation 1.5.15). NICE guideline CG72 suggests to include assessments of coexisting conditions as part of the diagnostic process of ADHD (see recommendation 1.3.1.3). We are also doing a surveillance review of the NICE guideline CG128 which will be updated in light of the new evidence regarding neurodevelopmental disorders as conditions with an increased risk of autism.
Optical Confederation, Local Optical Committee Support Unit and SeeAbility		No comments.	Thank you for your answer.