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APPENDIX 1: SCOPE FOR THE DEVELOPMENT OF THE CLINICAL GUIDELINE

Final version

1 Guideline title

Autistic spectrum conditions: diagnosis and management of autistic spectrum conditions in adults

Short title
Autistic spectrum conditions in adults

2 The remit

The Department of Health has asked NICE: 'To produce a clinical guideline on the management of autistic spectrum disorders in adults'[1].

3 Clinical need for the guideline

Epidemiology
Autistic spectrum conditions are lifelong neurological conditions. The way that they are expressed in individual people will differ at different stages of their lives, in response to interventions, and if they have coexisting conditions such as learning or language difficulties. A recent study conducted by Leicester University shows that the prevalence for all autistic spectrum conditions in adults in England is approximately 1%. In the past 30 years there has been a 25-fold increase in the prevalence of autistic spectrum conditions. This is probably a result of widening diagnostic categories, including the relatively recent subgroup of Asperger's syndrome, and the growth of services, better awareness, and improved detection. This increase has had a significant impact on referrals to diagnostic services.
People with autistic spectrum conditions commonly experience difficulty with cognitive and behavioural flexibility, altered sensory sensitivity (which can have both advantages and disadvantages), sensory processing difficulties, stereotyped mannerisms, emotional regulation difficulties, and a narrow and often highly focused range of interests and activities.
These features may be along a continuum from mild to severe. For a diagnosis of autistic spectrum conditions to be made there must be both the presence of impairments (as defined by the World Health Organization) and an impact on the person's functioning.
The two major diagnostic classification systems (DSM-IV and ICD-10) use similar but not identical criteria to diagnose autistic spectrum conditions. In

[1] We are using the term 'autistic spectrum conditions' rather than 'autistic spectrum disorders' because this is the terminology more recently used in the Department of Health's Autism Strategy, and is preferred by many (but not all) adults on the autistic spectrum.

the guideline we use ICD-10. Where we have included disorders not clearly specified in ICD-10 we have used the relevant DSM-IV criteria.

Both DSM-IV and ICD-10 use the term pervasive developmental disorder, which encompasses autism, Asperger's syndrome and atypical autism (or pervasive developmental disorder not otherwise specified). For the purposes of this clinical guideline the term autistic spectrum conditions is used instead of pervasive developmental disorder because it is more widely understood.

The June 2009 National Audit Office report 'Supporting people with autism through adulthood' reported that a significant proportion of adults with autism across the whole autistic spectrum are excluded both socially and economically. Their conditions are often overlooked by health, education and social care professionals,which creates barriers to accessing the support and services they need to live independently. In addition, people with autistic spectrum conditions are more likely to have coexisting mental health and medical health problems, other developmental conditions and adaptive impairments. 'Diagnostic overshadowing' means there may be a tendency to overlook symptoms of autistic spectrum conditions in these groups and attribute them to being part of an intellectual disability. While this is an important issue, the signs and symptoms of autism can also lead to the misdiagnosis of co-occurring disorders.

Current practice

There is wide variation in rates of identification and referral for diagnostic assessment, waiting times for diagnosis, models of multi-professional working, assessment criteria, diagnostic practice, biomedical investigation and genetic counselling for adults with features of autistic spectrum conditions. These factors contribute to delays in reaching a diagnosis and subsequent access to appropriate services.

When the diagnostic assessment process works well, professionals and carers communicate right from the start and the adults with autism are involved in the decisions relating to their care. This lays the foundation for a long-term understanding between adults with autism, carers and the professionals supporting their needs. However, many adults or their carers who suspect they have an autistic spectrum condition have had difficulties accessing a diagnostic assessment, particularly if they are not in contact with a specialist service for the assessment or treatment of another disorder. Even if they have managed to obtain a diagnosis they may receive no follow-up support because of the absence of appropriate services or of an agreed care pathway.

The use of biomedical investigations to rule out other conditions, and thresholds for referral for genetic counselling vary markedly. Opinion also varies on the value of biomedical investigations in the diagnostic assessment of autistic and coexisting conditions.

People with other existing conditions featuring intellectual, physical or sensory disability and/or mental health problems may not be recognised as having symptoms of an autistic spectrum condition. Some adults may be misdiagnosed as having personality disorders, eating disorders, or depression and their autistic spectrum condition may be overlooked.

Some of the behaviours that define autistic spectrum conditions may also feature in other disabilities (such as learning disabilities), or be the result of other conditions (such as epilepsy). People may be wrongly diagnosed as having a mental illness when they have features of an autistic spectrum condition, or they may be misdiagnosed with autism when they have another condition. Misdiagnosis can lead to delays in receiving the necessary care and support.

The process and content of information-sharing varies widely, for instance in the provision of information and support for the person and their family while awaiting diagnosis and immediately after.

Current awareness and understanding of autism in adults among front-line health, education and social care professionals leaves room for improvement. In line with the Department of Health's Autism Strategy, a better understanding of the condition may enable better service delivery.

Current treatment and management for autistic spectrum conditions is often focused on children and adolescence. Transition from child and adolescent mental health services to adult services can often be challenging and requires significant collaboration between several government organisations.
Due to the qualitative impairments in communication and social interaction skills, adults with autistic spectrum conditions often have difficulty in engaging in long-term employment or other purposeful/meaningful activity, especially if the person has a learning disability.

There are variations in practice of diagnosis and appropriate referral for adults with autistic spectrum conditions. Adults at the higher end of the autistic spectrum often may not get a diagnosis because of beliefs that, for example, if a person is in a settled relationship or can talk fluently they cannot have an autistic spectrum condition. This may lead to inappropriate crisis admissions to services as a result of mental health problems, physical illness, homelessness or coming into contact with the criminal justice system.
People with autistic spectrum conditions are at risk of exclusion and inequalities in service provision, particularly people from black or minority ethnic groups, older people, women and people with gender identity problems.

The Department of Health published 'Fulfilling and rewarding lives: the strategy for adults with autism in England' (2009) on designing services to improve care and support from all public services. The National Audit Office is currently undertaking a study, 'Supporting people with autism through adulthood', focusing particularly on the transition from adolescence to adulthood.

Clinical guidance for diagnosis has been published for the NHS in Scotland: 'Assessment, diagnosis and clinical interventions for children and young people with autism spectrum disorders' (Scottish Intercollegiate Guidelines Network 2007). The Autistic Spectrum Disorder Strategic Action Plan for Wales (2008) focused on the role of strategic health plans to develop services and interagency cooperation between health and education for children and young people with autistic spectrum conditions. The Autistic Spectrum Disorder (ASD) Strategic Action Plan for Wales (2009) focused on diagnosis, access to services, community support, employment and housing. This NICE guideline, along with the NICE guideline on autistic spectrum disorders in children and young people that is currently in development, will provide guidance for the NHS in England.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, 'Further information').

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health.

The areas that will be addressed by the guideline are described in the following sections.

4.1 Population

Groups that will be covered

a) Adults (18 or older), with suspected or diagnosed high functioning (for example, above average cognitive functioning) or low functioning (for example, profound communication problems) autistic spectrum conditions.

b) People with autistic spectrum conditions across the range of diagnostic groups, including atypical autism, Asperger's syndrome, pervasive developmental disorder and Rett's syndrome.

c) Consideration will be given to the specific needs of:

- people with coexisting conditions (such as dyslexia, dyspraxia, sensory sensitivity, depression, ADHD, OCD, personality disorders, eating disorders and anxiety disorders)
- women
- older people
- people from black or minority ethnic groups
- transgender people.

Groups that will not be covered

a) Children from birth up to 18 years old.

4.2 Healthcare setting

a) Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services).

b) Other settings in which NHS services are funded or provided, or where NHS professionals are working in multi-agency teams.

c) The guideline will also comment on and include recommendations about the interface with other services, such as social services, education services and the voluntary sector.

4.3 Clinical management

Key clinical issues that will be covered

a) Signs and symptoms that should prompt health, education and social care professionals working with adults and/or their carers to consider the presence of an autistic spectrum condition. These will include signs and symptoms that should trigger referral for specialist assessment.

b) Validity, specificity and reliability of the components of diagnostic assessment after referral, including:
   - structure for assessment, including strengths and skills
   - diagnostic thresholds
   - assessment tools, including imaging, genetic and biomedical techniques
   - assessment of risk
   - the impact of coexisting developmental, mental and physical conditions on the assessment.

c) Psychosocial interventions, including: applied behavioural analysis, cognitive behavioural therapies, social groups, befriending schemes, mentoring and supported employment programmes.

d) Pharmacological interventions, including: anticonvulsants, antidepressants, and antipsychotics for the treatment of symptoms that may arise from coexisting conditions.

e) Physical interventions, such as diet.

f) Information and day-to-day support (such as a telephone helpline or advocates) for adults with a suspected autistic spectrum condition, and their families and carers, during the process of referral, assessment, diagnosis and the delivery of any interventions.

g) The organisation and delivery of care, and care pathways for the components of treatment and management (including transition planning), based on an ethos of multi-professional working.

Clinical issues that will not be covered

a) Coexisting conditions if an autistic spectrum condition is not a primary diagnosis.

4.4 Main outcomes

a) Diagnostic accuracy and the identification of coexisting conditions.

b) Health-related quality of life.

c) Functioning in social/occupational/educational settings.

d) Outcomes for coexisting conditions, such as depression, anxiety and substance misuse.

e) Continuity of care.

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness is the quality-adjusted life year (QALY), but a different unit of effectiveness may be used depending on the availability of appropriate clinical and utility data for adults with autistic spectrum conditions. Costs considered will be from an NHS and personal social services (PSS) perspective in the main analyses. In addition, further analyses may be conducted that will consider wider social costs associated with the care of adults with autistic spectrum conditions. Such costs may include for example special education and training costs, voluntary sector respite care costs and costs of housing services. Further detail on the methods can be found in 'The guidelines manual' (see 'Further information').

4.6 Status

Scope

This is the final scope.

Timing
The development of the guideline recommendations will begin in July 2010.

5 Related NICE guidance

Guidance under development
NICE is currently developing the following related guidance (details available from the NICE website):

Autism spectrum disorders in children and young people. NICE clinical guideline. Publication expected September 2011.

6 Further information

Information on the guideline development process is provided in:

- 'How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS'
- 'The guidelines manual'.
- These are available from the NICE website (www.nice.org.uk/GuidelinesManual). Information on the progress of the guideline will also be available from the NICE website (www.nice.org.uk).

APPENDIX 2: DECLARATIONS OF INTERESTS BY GDG MEMBERS

With a range of practical experience relevant to autism in the GDG, members were appointed because of their understanding and expertise in healthcare for people with autism and support for their families/carers, including: scientific issues; health research; the delivery and receipt of healthcare, along with the work of the healthcare industry; and the role of professional organisations and organisations for people with autism and their families/carers.

To minimise and manage any potential conflicts of interest, and to avoid any public concern that commercial or other financial interests have affected the work of the GDG and influenced guidance, members of the GDG must declare as a matter of public record any interests held by themselves or their families which fall under specified categories (see below). These categories include any relationships they have with the healthcare industries, professional organisations and organisations for people with autism and their families/carers.

Individuals invited to join the GDG were asked to declare their interests before being appointed. To allow the management of any potential conflicts of interest that might arise during the development of the guideline, GDG members were also asked to declare their interests at each GDG meeting throughout the guideline development process. The interests of all the members of the GDG are listed below, including interests declared prior to appointment and during the guideline development process.

Categories of interest

Paid employment

Personal pecuniary interest: financial payments or other benefits from either the manufacturer or the owner of the product or service under consideration in this guideline, or the industry or sector from which the product or service comes. This includes holding a directorship, or other paid position; carrying out consultancy or fee paid work; having shareholdings or other beneficial interests; receiving expenses and hospitality over and above what would be reasonably expected to attend meetings and conferences.

Personal family interest: financial payments or other benefits from the healthcare industry that were received by a member of your family.

Non-personal pecuniary interest: financial payments or other benefits received by the GDG member's organisation or department, but where the GDG member has not personally received payment, including fellowships

and other support provided by the healthcare industry. This includes a grant or fellowship or other payment to sponsor a post, or contribute to the running costs of the department; commissioning of research or other work; contracts with, or grants from, NICE.

Personal non-pecuniary interest: these include, but are not limited to, clear opinions or public statements you have made about individuals with psychosis and substance misuse problems, holding office in a professional organisation or advocacy group with a direct interest in psychosis and substance misuse, other reputational risks relevant to psychosis and substance misuse.

Guideline Development Group - Declarations of interest	
Professor Simon Baron Cohen (chair)	
Employment	Director, Autism Research Centre, Cambridge University
Personal pecuniary interest	Have NHS funding for an Asperger's clinic.
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Non-personal non-pecuniary interest	Cambridge University are conducting a trial on Oxytocin. Conduct medico-legal assessments in relation to autism.
Action Taken	None
Professor Gillian Baird	
Employment	Consultant Paediatrician and Professor of Paediatric Neurodisability. Guy's and St Thomas' NHS Foundation trust and King's Health partners
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	Chair of NICE children's & young people's autism guideline Member of DSM V working party Member of ICD 11 working party Author or co-author of several papers relevant to recognition, diagnosis, coexisting conditions and management of children and young people with autism
Action Taken	None
Dr Carole Buckley	
Employment	General Practitioner
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

Action Taken	None
Dr Peter Carpenter	
Employment	Consultant Psychiatrist (Learning Disabilities), Associate Medical Lead Learning Disabilities and Specialist Adult Services Avon & Wiltshire Mental Health Partnership NHS Trust
Personal pecuniary interest	I have been employed by the National Autisitic Society as a clinican, also at present receive payments for clinical work some of which includes work in autism from Priory Healthcare and Castlebeck Com. Also receive payments for medico-legal reports relating to people with ASC.
Personal family interest	None
Non-personal pecuniary interest	Received payment from a drug company for participating in a conference.
Personal non-pecuniary interest	None
Action Taken	None
Dr Juli Crocombe	
Employment	Consultant Psychiatrist, St George's Hospital, Stafford
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	Received payment from a drug company for participating in a CPD event.
Personal non-pecuniary interest	I support the National Autistic Society in it's quest for the provision of appropriate and adequate health and social services for adults with Autistic Spectrum Disorder in the UK.
Action Taken	None
Ms Jackie Dziewanowska	
Employment	Autism Spectrum Disorder Nurse Consultant Clinical Lead, Nottingham City Asperger Service
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Dr Marga Hogenboom	
Employment	General Practitioner Camphill Medical Practice Bieldside, Scotland Medical adviser, local Camphill places in Aberdeen Personal non pecuniary interest.
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	Director, Camphill Wellbeing Trust
Action Taken	None

Professor Patricia Howlin	
Employment	Professor of Clinical Child Psychology, King's College London and Consultant Clinical Psychologist
Personal pecuniary interest	Expert advisor/paid consultant to Dr Rick Solomons NIH funded PLAY project and paid consultant to the Rand Corporation Review of Evidence of Psychosocial and Related Interventions for Children with Autism
Personal family interest	None
Non-personal pecuniary interest	Consultation to NHS services in Cornwall and Mid Glamorgan and to the University of Oslo for which my Trust is paid
Personal non-pecuniary interest	Co-chair of the Scientific and Advisory committee of Research Autism; chair of Scientific Advisory Group, Autistica & chair of MHRN Autism Clinical research group
Action Taken	Professor of Clinical Child Psychology, King's College London and Consultant Clinical Psychologist
Ms Annie Foster-Jones	
Employment	Autism Specialist Nurse, Cheshire & Wirral Partnership NHS Foundation Trust, Learning Disabilities Clinical Service Unit.
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Mr Campbell Main	
Employment	Representing service user and carer concerns
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Melissa McAuliffe	
Employment	Asperger Specialist – Social Care, Rehabilitation & Recovery Team
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	I am employed by LB Newham and seconded to the East London NHS Foundation Trust to work in the Asperger Service. The NICE guidelines will have a direct impact on how this service runs. I am a member of the British Association of Social Workers.
Action Taken	None
Mr Richard Mills	
Employment	Director of Research, The National Autisitc Society. Hon. Sectretary and Research Director, Research Autism
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None

Personal non-pecuniary interest	Employed by the National Autistic Society and Research Autism
Action Taken	None
Ms Joan Panton	
Employment	Representing service user and carer concerns
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Maggi Rigg	
Employment	Cambian Group Advisory Board
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Anya Ustaszewski	
Employment	Autism and Disability Awareness Trainer and Rights Advocate Musician and Composer (Freelance) Representing service user and carer concerns
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	Steering Committee Memeber of London Autistic Rights Movement Trustee of ASSERT B&H Trustee of AutreachIT
Action Taken	None
National Collaborating Centre for Mental Health Staff	
Professor Stephen Pilling	
Employment	Director, National Collaborating Centre for Mental Health; Professor of Clinical Psychology and Clinical Effectiveness; Director, Centre for Outcomes Research and Effectiveness, University College London.
Personal pecuniary interest	Funding of £1,200,000 p.a. from NICE to develop clinical guidelines. Funding from British Psychological Society (2005 to 2011) £6,000,000 to establish the Clinical Effectiveness Programme at Centre for Outcomes Research and Effectiveness, UCL; with Professor P Fonagy and Professor S. Michie. Funding for the Dynamic Interpersonal Therapy (DIT) Competences Framework.
Personal family interest	None
Non-personal pecuniary interest	RCT to evaluate multi-systemic therapy with Professor Peter Fonagy; Department of Health funding of £1,000,000 (2008 to 2012). RCT to evaluate collaborative care for depression; with Professor D. Richards; Medical Research Council Funding of £2,200,000 (2008 to 2012).

	Developing a UK Evidence Base for Contingency Management in Addiction with Professor J Strang; National Institute of Health Research Grant of £2,035,042 (2009 to 2013).
Personal non-pecuniary interest	None
Mr Nadir Cheema	
Employment	Health Economist, NCCMH
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Ms Naomi Glover	
Employment	Research Assistant, NCCMH
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Flora Kaminski	
Employment	Research Assistant, NCCMH
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Rachael Lee	
Employment	Research Assistant, NCCMH (September 2011 onwards)
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Katherine Leggett	
Employment	Project Manager, NCCMH
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Dr Odette Megnin-Viggars	
Employment	Systematic Reviewer, NCCMH (March 2010 onwards)
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Ms Sarah Stockton	
Employment	Senior Information Scientist, NCCMH
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None

Action Taken	None
Dr Clare Taylor	
Employment	Senior Editor, NCCMH
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None
Dr Amina Udechuku	
Employment	Systematic Reviewer, NCCMH (March 2010 – June 2011)
Personal pecuniary interest	None
Personal family interest	None
Non-personal pecuniary interest	None
Personal non-pecuniary interest	None
Action Taken	None

APPENDIX 3: SPECIAL ADVISORS TO THE GUIDELINE DEVELOPMENT GROUP

None

APPENDIX 4: STAKEHOLDERS WHO RESPONDED TO EARLY REQUESTS FOR EVIDENCE

None

APPENDIX 5: STAKEHOLDERS AND EXPERTS WHO SUBMITTED COMMENTS IN RESPONSE TO THE CONSULTATION DRAFT OF THE GUIDELINE

Stakeholders

ADRC
Ambitious about Autism
Association Directors of Adult Social Services
Association for Family Therapy and Systemic Practice
AUTISM ALLIANCE UK
Autism Cymru
Autism NI
Autism Rights Group Highland
Autism West Midlands
Berkshire Autistic Society
Brain-in-Hand Ltd
Brighton and Hove City Council
British Dietetic Association
British Psychological Society
Caldedstones Partnership NHS Foundation Trust
Cochrane Collaboration Developmental, Psychosocial and Learning Problems Group
Craegmoor
Dorset Healthcare University Foundation NHS Trust
European Association for Behaviour Analysis
Hampshire Autistic Society
Hartlepool Borough Council (Tees Valley ASD Group, Middlesbrough Council Stockton Borough Council, Redcar & Cleveland Council)
Hertfordshire Partnership NHS foundation Trust
Institute of Psychiatry, Kings College London
London Borough of Tower Hamlets
National Autistic Society
NHS Direct
Northumberland, Tyne & Wear NHS Trust
Nottinghamshire Healthcare NHS Trust
Optical Confederation, and the LOC Support Unit
Prison Reform Trust
Pyramid Educational Consultants
Queen's University Belfast,
Royal College of Nursing
Royal College of Psychiatrists
Royal College of Speech and Language Therapists
Sheffield Asperger Syndrome Service
Social Care Institute for Excellence
Somerset County Council
Somerset Partnership NHS
South London and Maudsley NHS Trust
Specialist Autism Services
Sussex Partnership NHS Foundation Trust
Tees, Esk & Wear Valleys NHS Foundation Trust
The College of Social Work
The Royal College of Psychiatrists, Learning Disability Faculty
WaASP

Welsh Government
Welsh Health Boards ASD Assessment & Diagnosis (Adults) Network
Worcestershire Health and Care NHS Trust

Experts

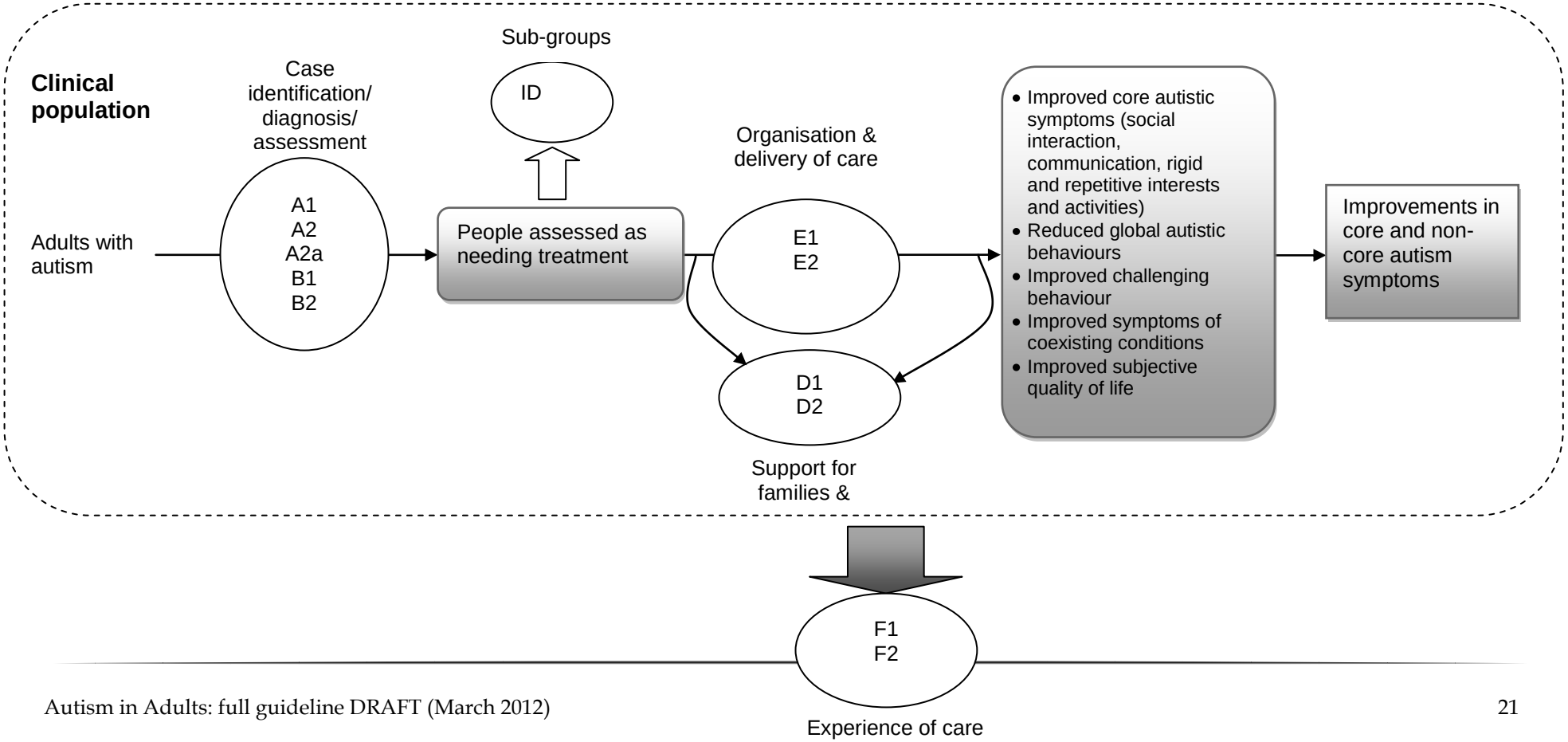
Dr Iain McClure
Stefan Gleeson

APPENDIX 6: RESEARCHERS CONTACTED TO REQUEST INFORMATION ABOUT UNPUBLISHED OR SOON-TO-BE PUBLISHED STUDIES

Dr Adam Guastella
Professor Terry Brugha
Professor Peter Tyrer
Dr. Marco Bertelli
Professor Christopher McDougle
Dr Gary Remington

APPENDIX 7: ANALYTIC FRAMEWORK AND CLINICAL QUESTIONS

Assessment/ care pathways/experience of care



Case identification

No.	Primary review questions
A1	What signs or symptoms should prompt any professional who comes into contact with an adult with possible autism to consider referral for further assessment?
A2 & A2a	What are the most effective methods/tools for case identification in adults with autism? a. What amendments, if any, need to be made to the agreed methods for case identification to take into account individual variation [for example, gender, age, intellectual abilities (including cognitive strengths as well as difficultie], communication problems, developmental disorders, coexisting mental health disorders, physical problems including hyper/hypo-sensitivities, motor impairments, and visual and hearing impairments)?

Diagnosis and assessment

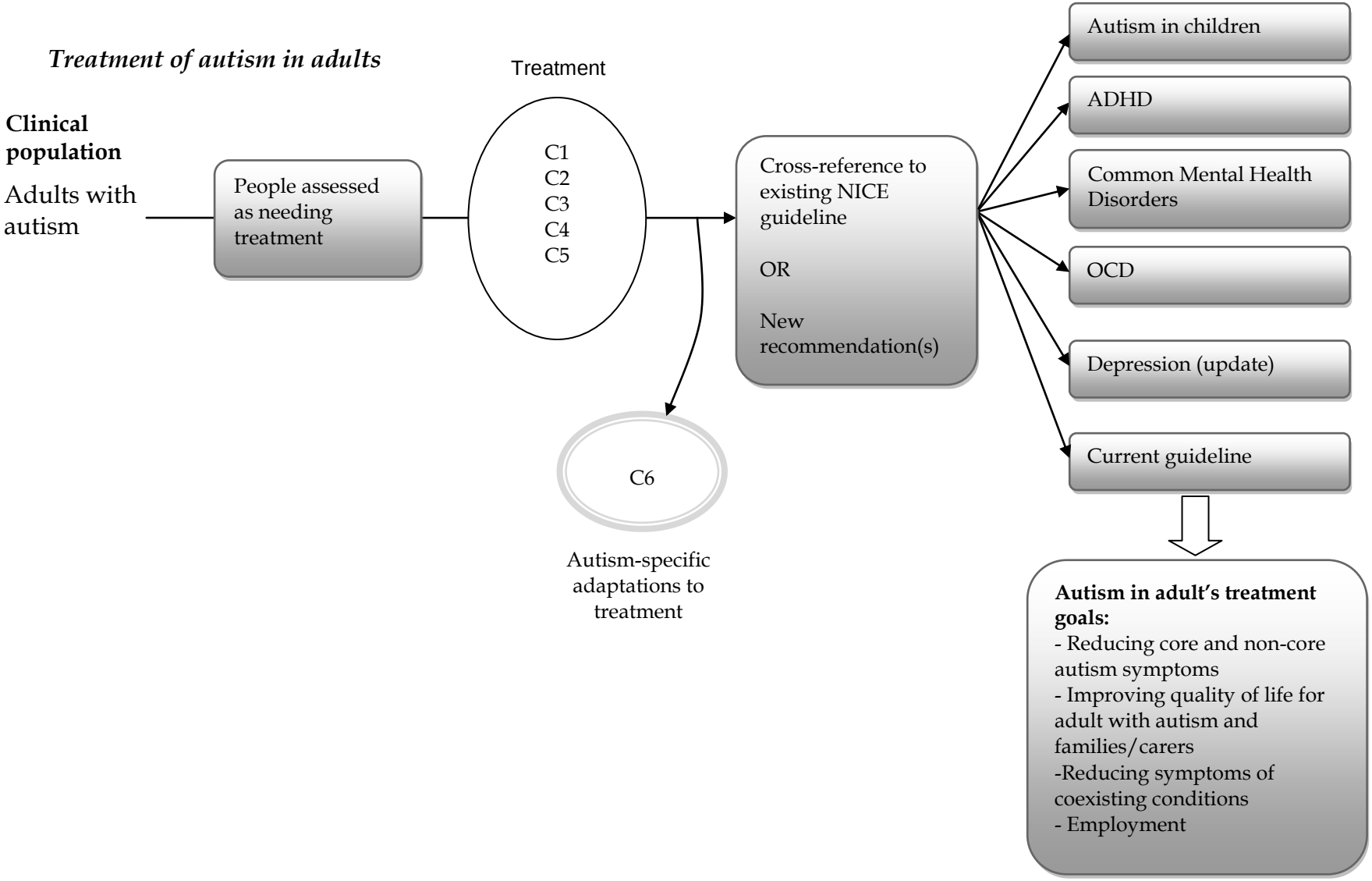
No.	Primary review questions
B1	In adults with possible autism, what are the key components of, and the most effective structure for, a diagnostic assessment? To answer this question, consideration should be given to: • the nature and content of the clinical interview and observation (including an early developmental history where possible) • formal diagnostic methods/ psychological instruments (including risk assessment) • biological measures • the setting(s) in which the assessment takes place • who the informant needs to be (to provide a developmental history).
B2	When making a differential diagnosis of autism in adults, what amendments, if any, need to be made to the usual methods to make an: • assessment of autism itself in light of potential coexisting conditions? • assessment of the co-existing conditions (for example, common mental health disorders, ADHD, personality disorder, gender/identity disorders, eating disorders, Tourette Syndrome, and drug/alcohol misuse)?
B3	What are the most effective methods for assessing an individual's needs (for example, their personal, social, occupational, educational, and housing needs) for adults with autism?

Organisation & delivery of care

No.	Primary review questions
E1	What are the effective models for the delivery of care to people with autism including:- • the structure and design of care pathways? • systems for the delivery of care (for example, case management)? • advocacy services?
E2	For adults with autism, what are the essential elements in the effective provision of: • support services for the individual (including accessing and using services)? • day care? • residential care?

Experience of care

No.	Primary review questions
F1	For people with autism, what are their experiences of having autism, of access to services, and of treatment?
F2	For families, carers or significant others of people who have autism, what are their experiences of caring for people with autism, and what support is available for families, carers or significant others?


Treatment of autism in adults
Clinical population
Adults with autism
People assessed as needing treatment
Treatment
C1
C2
C3
C4
C5
C6
Autism-specific adaptations to treatment
Cross-reference to existing NICE guideline
OR
New recommendation(s)
Autism in children
ADHD
Common Mental Health Disorders
OCD
Depression (update)
Current guideline
Autism in adult's treatment goals:
- Reducing core and non-core autism symptoms
- Improving quality of life for adult with autism and families/carers
-Reducing symptoms of coexisting conditions
- Employment

Interventions

No.	Primary review question
C1	For adults with autism, what are the benefits and/or potential harms associated with different psychosocial interventions (for example, applied behavioural analysis, cognitive behavioural therapy, mentoring, social groups, and befriending schemes)?
C2	For adults with autism, what is the effectiveness of vocational and supported employment programmes?
C3	For adults with autism, what is the effectiveness of educational interventions (including specialist programmes, or support within mainstream education)?
C4	For adults with autism, what is the effectiveness of biomedical interventions (for example, dietary interventions, sensory integration, pharmacotherapy, and physical-environmental adaptations)?
C5	For adults with autism, is the effectiveness of interventions moderated by :- • the nature and severity of the condition? • the presence of coexisting conditions? • age? • the presence of sensory sensitivities (including pain thresholds)? • IQ? • language level?
C6	For adults with autism, what amendments, if any, need to be made to the current recommendations for psychosocial and pharmacological treatment (including the nature of drug interactions and side effects) for coexisting common mental health disorders?

APPENDIX 8: REVIEW PROTOCOLS

Signs and symptoms review protocol

Table 1: Clinical review protocol for the review of signs and symptoms that should prompt initial assessment

Component	Description
Review question (s)	What signs or symptoms should prompt any professional who comes into contact with an adult with possible autism to consider referral for further assessment? (CQ-A1)
Chapter	5
Sub-section	5.2
Topic group	Assessment & Case ID
Objectives	• To identify the signs and symptoms that would prompt referral for further diagnostic assessment. • To suggest how recognition of autism can be improved
Criteria for considering studies for the review	
• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder) Consideration should be given to the specific needs of: • people with coexisting conditions • women • older people • people from black and minority ethnic groups • transgender people
• Comparison	Individuals with or without diagnosed autism
• Critical outcomes	Sensitivity, specificity, positive predictive value, negative predictive value, area under the curve
• Study design	Cross-sectional, Systematic reviews
Electronic databases	AEI, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case-series. Inception of database up to 09/09/2011. Systematic reviews 1995 up to 09/09/2011
The review strategy	To provide a GDG-consensus based narrative of signs and symptoms that should prompt a referral for specialist assessment as well as identify any amendments that need to be made to take into account individual variation
Note. autism = autism spectrum disorders; RCT = Randomised Controlled Trial; QE = Quasi-experimental; OS = Observational Study; AEI = Australian Education Index; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts	

Case identification review protocol

Table 2: Clinical review protocol for the review of case identification tools

Component	Description
Review question (s)	What are the most effective methods/tools for case identification in autism in adults? (CQ-A2)
Sub-question	What amendments, if any, need to be made to the agreed methods for case identification to take into account individual variation (for example, gender, age, intellectual abilities, including cognitive strengths as well as difficulties, communication problems, developmental disorders, coexisting mental health problems, physical health problems including hyper/hyposensitivities, motor impairments, and visual and hearing impairments)? (CQ- A2a)
Chapter	5
Sub-section	5.3
Topic group	Assessment & Case ID
Objectives	• To identify and evaluate case identification tools used in the recognition of autism • To suggest how recognition of autism can be improved
Criteria for considering studies for the review	
• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder). Consideration should be given to the specific needs of • people with coexisting conditions • women • older people • people from black and minority ethnic groups • transgender people.
• Intervention	Case identification instruments (for example, the Autism-spectrum Quotient [AQ]; Social Communication Questionnaire [SCQ]; Autism Behaviour Checklist [ABC])
• Index test	Case identification instruments
• Comparison	DSM or ICD diagnosis of autism
• Critical outcomes	**Sensitivity**: the proportion of true positives of all cases diagnosed with autism in the population **Specificity**: the proportion of true negatives of all cases not-diagnosed with autism in the population.
• Important, but not critical outcomes	**Positive Predictive Value (PPV)**: the proportion of patients with positive test results who are correctly diagnosed. **Negative Predictive Value (NPV)**: the proportion of patients with negative test results who are correctly diagnosed. **Area under the Curve (AUC):** are constructed by plotting the true positive rate as a function of the false positive rate for each threshold.
• Other outcomes	**Reliability** (for example, inter-rater, test-retest) **Validity** (for example, construct, content)

• Study design	Cohort and case-control
• Include unpublished data?	No
• Restriction by date?	No
• Minimum sample size	N=10 per arm Exclude studies with > 50% attrition from either arm of trial (unless adequate statistical methodology has been applied to account for missing data).
• Study setting	• Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services) • Others in which NHS services are funded or provided, or NHS professionals are working in multi-agency teams
Electronic databases	AEI, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case series. Inception of database up to 09/09/2011. Sytematic reviews. 1995 up to 09/09/2011
Searching other resources	Hand-reference searching of retrieved literature
The review strategy	To conduct diagnostic accuracy meta-analyses on the sensitivity and specificity of case identification tools. This is dependent on available data from the literature. In the absence of this, a narrative review of case identification tools will be conducted and guided by a pre-defined list of consensus-based criteria (for example, the clinical utility of the tool, administrative characteristics, and psychometric data evaluating its sensitivity and specificity).

Note. autism = autism spectrum disorders; DSM = Diagnostic and Statistical Manual; ICD = International Classification of Diseases; RCT = Randomised Controlled Trial; QE = Quasi-experimental; OS = Observational Study; AEI = Australian Education Index; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts

Assessment and diagnosis review protocol

Table 3: Clinical review protocol for assessment and diagnosis

Component	Description
Review question (s)	In adults with possible autism, what are the key components of, and the most effective structure for, a diagnostic assessment? To answer this question, consideration should be given to: • the nature and content of the clinical interview and observation (including an early developmental history where possible) • formal diagnostic methods/ psychological instruments (including risk assessment) • biological measures • the setting(s) in which the assessment takes place • who the informant needs to be (to provide a developmental history). (CQ- B1) What are the most effective methods for assessing an individual's needs (for example, their personal, social, occupational, educational, and housing needs) for adults with autism? (CQ – B3)
Sub-question	When making a differential diagnosis of autism in adults, what amendments, if any, need to be made to the usual methods to make an assessment of autism itself in light of potential coexisting conditions (for example, common mental health disorders, ADHD, personality disorder, gender/identity disorders, eating disorder, Tourette's syndrome, and drug/alcohol misuse)? (CQ- B2)
Chapter	5
Sub-section	5.4
Topic Group	Assessment & Case Identification
Objectives	• To identify the key components of an effective clinical interview to diagnose the presence and severity of autism in adults. • To evaluate the diagnostic accuracy of assessment tools which aid the diagnosis of autism in adults. • To identify what amendments, if any, need to be made to take into account individual differences (for example, coexisting conditions). • To identify the most effective methods for assessing an individual's needs. • To evaluate an individual's quality of life • To suggest how diagnosis of autism in adults can be improved
Criteria for considering studies for the review	
• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder) Consideration should be given to the specific needs of: • people with coexisting conditions • women

	• older people • people from black and minority ethnic groups • transgender people.
• Intervention	Formal assessments of the nature and severity of autism (including problem specification or diagnosis).
• Index Test	Formal assessments of the nature and severity of autism (including problem specification or diagnosis)
• Comparison	DSM or ICD clincial diagnosis of autism (or equivalent)
• Critical outcomes	**Sensitivity**: the proportion of true positives of all cases diagnosed with autism in the population **Specificity**: the proportion of true negatives of all cases not-diagnosed with autism in the population.
• Important, but not critical outcomes	**Positive Predictive Value (PPV)**: the proportion of patients with positive test results who are correctly diagnosed. **Negative Predictive Value (NPV)**: the proportion of patients with negative test results who are correctly diagnosed. **Area under the Curve (AUC):** are constructed by plotting the true positive rate as a function of the false positive rate for each threshold.
• Other outcomes	**Reliability** (for example, inter-rater, test-retest) **Validity** (for example, construct, content)
• Study design	Case-control and cohort
• Include unpublished data?	No
• Restriction by date?	No
• Minimum sample size	N=10 per arm Exclude studies with > 50% attrition from either arm of trial (unless adequate statistical methodology has been applied to account for missing data).
• Study setting	• Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services) • Others in which NHS services are funded or provided, or NHS professionals are working in multi-agency teams
Electronic databases	AEI, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case-series. Inception of database up to 09/09/2011. Systematic reviews. 1995 up to 09/09/2011.
Searching other resources	Hand-reference searching of retrieved literature
The review strategy	• To provide a GDG-consensus based narrative identifying the key components of an effective clinical diagnostic interview (considering possible amendments due to individual variation). • To conduct diagnostic accuracy meta-analyses on the sensitivity and specificity, reliability and validity of assessment tools. This is dependent on available data from the literature. In the absence of this, a narrative review of assessment tools will be conducted and guided by a pre-defined list of consensus-based criteria (for example, the clinical utility of the tool, administrative

	characteristics, and psychometric data evaluating its sensitivity, specificity, reliability and validity).

Note. autism = autism spectrum disorders; DSM = Diagnostic and Statistical Manual; ICD = International Classification of Diseases; RCT = Randomised Controlled Trial; QE = Quasi-experiemental; OS = Observational Study; AEI = Australian Education Index; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts

Experience of care review protocol

Component	Description
Review question(s)	For people with autism, what are their experiences of having autism, of access to services, and of treatment? (CQ-E1) For families, carers or significant others of people who have autism, what are their experiences of caring for people with autism, and what support is available for families, carers or significant others? (CQ-E2)
Sub-question(s)	None
Chapter	4
Topic Group	Experience of care
Objectives	To identify the emerging themes for the experiences of individuals with autism and their families/carers in terms of the experience of autism and in terms of experiences of accessing services and of treatment
Criteria for considering studies for the review	
• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder), and their families and carers.
• Intervention	None
• Comparison	None
• Critical outcomes	None specified - any narrative description of service user or carer experience of autism
• Study design	Systematic reviews of qualitative studies, qualitative studies
• Include unpublished data?	No
• Restriction by date?	No
• Minimum sample size	No minimum sample size
• Study setting	Any setting
Electronic databases	ASSIA, CINAHL, Embase, HMIC, IBSS, Medline, PsycBOOKS, PsycEXTRA, PsycINFO, SSA, Sociological Abstracts
Date searched	CINAHL, Embase, HMIC, Medline, PsycBOOKS, PsycEXTRA, PsycINFO: 01.01.1996 - 09.09.2011; ASSIA, IBSS, SSA, Sociological Abstracts: 01.01.1996 - 10.10.2011
Searching other resources	Hand-reference searching of retrieved literature
The review strategy	Thematic analysis of primary qualitative studies reporting experiences of individuals with autism and/or their families and carers
ASSIA = Applied Social Services Index and Abstracts; CINAHL = Cumulative Index to Nursing and Allied Health Literature; Embase = Excerpta Medica database; HMIC = Health Management Information Consortium; IBSS = International Bibliography of Social Sciences; Medline = Biomedical Information Database; PsycBOOKS = Psychological Information Database; PsycEXTRA = Grey literature database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts	

Psychosocial interventions review protocol

Table 4: Clinical review protocol for the review of psychosocial interventions

Component	Description
Review question	For adults with autism, what are the benefits and/or potential harms associated with different psychosocial interventions (for example, applied behavioural analysis, cognitive behavioural therapy, mentoring, social groups, and befriending schemes)? (CQ – C1) For adults with autism, what is the effectiveness of vocational and supported employment programmes? (CQ – C2) For adults with autism, what is the effectiveness of educational interventions (including specialist programmes, or support within mainstream education, or educational software, etc.)? (CQ – C3)
Sub-question	For adults with autism, is the effectiveness of interventions moderated by: • the nature and severity of the condition? • the presence of coexisting conditions? • age? • the presence of sensory sensitivities (including pain thresholds)? • IQ? • language level? (CQ – C5) For adults with autism, what amendments, if any, need to be made to the current recommendations for psychosocial and pharmacological treatment (including the nature of drug interactions and side effects) for coexisting common mental health disorders? (CQ-C6)
Chapter	6
Topic group	Psychological/ Educational/ Social Interventions
Objectives	To evaluate the clinical effectiveness of psychosocialinterventions for autism.
Criteria for considering studies for the review	

• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder). Consideration should be given to the specific needs of: • people with coexisting conditions • women • older people • people from black and minority ethnic groups • transgender people Excluded groups include: • children (< 18 years of age) HOWEVER it was decided based on GDG consensus that where primary data from an adult population was absent it may be valid to extrapolate from an autism population with a mean age of 15 years or above. For interventions concerned with the management of behaviour, and where data from adult autism populations was not sufficient, the GDG decided that extrapolating from an intellectual disabilities population was valid.
• Intervention(s)	• **Psychosocial interventions aimed at behaviour management** (for example, applied behaviour analysis, behavioural therapies, cognitive behavioural therapy, social learning) • **Communication** (for example, augmentative and alternative communication, facilitated communication, picture exchange system) • **Vocational/employment interventions** (for example, vocational rehabilitation programmes, individual supported employment)
• Comparison	Treatment-as-usual, waitlist control, other active interventions
• Critical outcomes	Outcomes involving core features of autism (social interaction, communication, repetitive interests/activities); overall autistic behaviour; management of challenging behaviour; outcomes involving treatment of coexisting conditions
• Study design	• RCTs The GDG agreed by consensus that where there were no RCTs found in the evidence search, or the results from the RCTs were inconclusive, that the following studies would be included in the review of evidence: • observational • quasi-experimental • case series
• Include unpublished data?	Yes but only where: • the evidence was accompanied by a trial report containing sufficient detail to properly assess the quality of the data • the evidence was submitted with the understanding that data from the study and a summary of the study's characteristics will be published in the full guideline. Therefore, the

	GDG should not accept evidence submitted as commercial in confidence. However, the GDG should recognise that unpublished evidence submitted by investigators, might later be retracted by those investigators if the inclusion of such data would jeopardise publication of their research.
• Restriction by date?	No
• Minimum sample size	• RCT/observational/quasi-experimental studies:- N=10 per arm (ITT) • Case series studies:- N=10 in total Exclude studies with > 50% attrition from either arm of trial (unless adequate statistical methodology has been applied to account for missing data).
• Study setting	• Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services) • Others in which NHS services are funded or provided, or NHS professionals are working in multi-agency teams
Electronic databases	AEI, AMED, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case-series. Inception of DB up to 09/09/2011. Systematic reviews. 1995 up to 09/09/2011.
Searching other resources	Hand-reference searching of retrieved literature

Review strategy	• The initial aim is to conduct a meta-analysis evaluating the clinical effectiveness of the interventions. However, in the absence of adequate data, the literature will be presented via a narrative synthesis of the available evidence.
	• Narratively review literature that takes into consideration any amendments due to common mental health disorders.
	• Consider subgroup meta-analyses that takes into account the effectiveness of interventions as moderated by:-
	  • the nature and severity of the condition
	  • the presence of coexisting conditions?
	  • age
	  • the presence of sensory sensitivities (including pain thresholds)
	  • IQ
	  • language level

Note. autism=autism spectrum disorders; DSM = Diagnostic and Statistical Manual; ICD = International Classification of Diseases; RCT = Randomised Controlled Trial; QE = Quasi-experiemental; OS = Observational Study; AEI = Australian Education Index; AMED = Allied and Complementary Medicine; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts	

Biomedical interventions review protocol

Table 5: Clinical review protocol for the review of biomedical interventions

Component	Description
Review question	For adults with autism, what is the effectiveness of biomedical interventions (for example, dietary interventions, pharmacotherapy, and physical-environmental adaptations)? (CQ – C4)
Sub-question	For adults with autism, is the effectiveness of interventions moderated by: • the nature and severity of the condition? • the presence of coexisting conditions? • age? • the presence of sensory sensitivities (including pain thresholds)? • IQ? • language level? (CQ – C5) For adults with autism, what amendments, if any, need to be made to the current recommendations for psychosocial and pharmacological treatment (including the nature of drug interactions and side effects) for coexisting common mental health disorders? (CQ-C6)
Chapter	7
Topic group	Biomedical Interventions
Objectives	To evaluate the clinical effectiveness of biomedical interventions for autism.
Criteria for considering studies for the review	

• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder). Consideration should be given to the specific needs of: • people with coexisting conditions • women • older people • people from black and minority ethnic groups • transgender people Excluded groups include: children (< 18 years of age) HOWEVER – the GDG made a consensus-based decision that we would need to extrapolate from literature involving children (<18 years) for interventions where there was not sufficient evidence from an adult population and where the mechanisms of biomedical interventions were judged by the GDG to be equivalent in children and adults. For interventions concerned with the management of behaviour, and where data from adult autism populations was not sufficient, the GDG decided that extrapolating from an intellectual disability population was valid.
• Intervention(s)	• **Pharmacotherapy** (for example, antipsychotics, antidepressants, anticonvulsants) • **Vitamins and dietary supplements** (for example, omega-3 fatty acid supplements, vitamin B12, vitamin A) • **Hormones** (for example, oxytocin, secretin, melatonin)
• Comparison	Placebo-controlled, other active interventions
• Critical outcomes	Outcomes involving core features of autism (social interaction, communication, repetitive interests/activities); overall autistic behaviour; symptom severity/improvement; management of challenging behaviour; outcomes involving treatment of coexisting conditions; side effects.
• Study design	• RCTs The GDG agreed by consensus that where there were no RCTs found in the evidence search, or the results from the RCTs were inconclusive, that the following studies would be included in the review of evidence: • observational • quasi-experimental • case series
• Include unpublished data?	Yes but only where: • the evidence was accompanied by a trial report containing sufficient detail to properly assess the quality of the data • the evidence was submitted with the understanding that data from the study and a summary of the study's characteristics will be published in the full guideline. Therefore, the GDG should not accept evidence submitted as commercial in confidence. However, the GDG

	should recognise that unpublished evidence submitted by investigators, might later be retracted by those investigators if the inclusion of such data would jeopardise publication of their research.
• Restriction by date?	No
• Minimum sample size	• RCT/observational/quasi-experimental studies:- N=10 per arm (ITT) • Case series studies:- N=10 in total Exclude studies with > 50% attrition from either arm of trial (unless adequate statistical methodology has been applied to account for missing data).
• Study setting	• Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services) • Others in which NHS services are funded or provided, or NHS professionals are working in multi-agency teams
Electronic databases	AEI, AMED, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case-series. Inception of DB up to 09/09/2011. Systematic reviews. 1995 up to 09/09/2011.
Searching other resources	Hand-reference searching of retrieved literature

The review strategy	• The initial aim is to conduct a meta-analysis evaluating the clinical effectiveness of the interventions. However, in the absence of adequate data, the literature will be presented via a narrative synthesis of the available evidence.
	• Narrative review of the literature that takes into consideration any amendments due to common mental health disorders.
	• Consider subgroup meta-analyses that takes into account the effectiveness of interventions as moderated by:-
	  • the nature and severity of the condition
	  • the presence of coexisting conditions
	  • age
	  • the presence of sensory sensitivities (including pain thresholds)
	  • IQ
	  • language level

Note. autism=autism spectrum disorders; DB = Database; DSM = Diagnostic and Statistical Manual; ICD = International Classification of Diseases; RCT = Randomised Controlled Trial; QE = Quasi-experiemental; OS = Observational Study; SR = Systematic Review; AEI = Australian Education Index; AMED = Allied and Complementary Medicine; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts	

Support for families and carers review protocol

Table 6: Clinical review protocol for the review of direct support for families & carers and the role of the family in supporting the delivery of interventions

Component	Description
Review question(s)	What information and day-to-day support do families and carers need:- • during the initial period of assessment and diagnosis? • when treatment and care is provided (for example, telephone helpline, information packs, advocates or respite care, interpreters and other language tools)? • during periods of crisis? (CQ – D1) What role can families and carers play in supporting the delivery of interventions for people with autism? (CQ – D2)
Sub-question(s)	None
Chapter	6
Sub-section	6.9
Topic Group	Experience of care
Objectives	• To determine what support services and information is needed for families and carers of people with autism at the point of diagnosis as well as throughout the care pathway. • To specify and evaluate the role of the family and carer in supporting an individual with autism receiving an intervention.
Criteria for considering studies for the review	
• Population	**The families and carers of:-** Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder) HOWEVER it was decided based on GDG consensus that where primary data from an adult population was absent it may be valid to extrapolate from families and carers of autistic young people with a mean age of 15 years or above. • For interventions concerned with parental support/psychoeducation, and where data from adult autism populations was not sufficient, the GDG decided that extrapolating from an intellectual disability population was valid.
• Intervention (s)	• **Psycho-education** • **Interventions to support family involvement in the process of care** • **Psychosocial interventions for families** (for example, support groups for families and carers)
• Comparison	Treatment-as-usual, waitlist control, other active interventions
• Critical outcomes	**Family focused measures** • Family members satisfaction and well-being

	• Knowledge and understanding • Engagement **Client focused measures** • **Outcomes involving core features of autism**, including a. social interaction b. language and communication c. repetitive behaviour and rituals
• Study design	• RCTs The GDG agreed by consensus that where there were no RCTs found in the evidence search, or the results from the RCTs were inconclusive, that the following studies would be included in the review of evidence: • observational • quasi-experimental • case series
• Include unpublished data?	Yes but only where: • the evidence was accompanied by a trial report containing sufficient detail to properly assess the quality of the data • the evidence was submitted with the understanding that data from the study and a summary of the study's characteristics will be published in the full guideline. Therefore, the GDG should not accept evidence submitted as commercial in confidence. However, the GDG should recognise that unpublished evidence submitted by investigators, might later be retracted by those investigators if the inclusion of such data would jeopardise publication of their research.
• Restriction by date?	No
• Minimum sample size	• RCT/Observational/Quasi-Experimental Studies:- N=10 per arm (ITT) • Case Series Studies:- N=10 in total Exclude studies with > 50% attrition from either arm of trial (unless adequate statistical methodology has been applied to account for missing data).
• Study setting	• Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services) • Others in which NHS services are funded or provided, or NHS professionals are working in multi-agency teams
Electronic databases	AEI, AMED, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case-series. Inception of DB up to 09/09/2011. Systematic reviews. 1995 up to 09/09/2011.
Searching other resources	Hand-reference searching of retrieved literature .
The review strategy	• Narrative review of the literature that takes into consideration any amendments due to common mental health disorders.

	• Consider subgroup meta-analyses that takes into account the effectiveness of interventions as moderated by:-
	  • the nature and severity of the condition
	  • the presence of co-existing conditions
	  • age
	  • the presence of sensory sensitivities (including pain thresholds)
	  • IQ

Note: AEI = Australian Education Index; AMED = Allied and Complementary Medicine; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts	

Organisation and delivery of care review protocol

Table 7: Clinical review protocol for the review of organisation and delivery of care

Component	Description
Review question	What are the effective models for the delivery of care to people with autism including:- • the structure and design of care pathways? • systems for the delivery of care (for example, case management)? • advocacy services? (CQ – E1) For adults with autism, what are the essential elements in the effective provision of: • support services for the individual (including accessing and using services)? • day care? • residential care? (CQ – E2)
Sub-question	None
Chapter	8
Topic group	None
Objectives	To evaluate the components and effectiveness of different models for the delivery of care
Criteria for considering studies for the review	
• Population	Adults and young people aged 18 years and older with suspected autism across the range of diagnostic groups (including atypical autism, Asperger's syndrome and pervasive developmental disorder). Consideration should be given to the specific needs of: • people with coexisting conditions • women • older people • people from black and minority ethnic groups • transgender people Excluded groups include: • children (< 18 years of age) Where data from adult autism populations was not sufficient, the GDG decided that extrapolating from an intellectual disabilities population was valid.
• Intervention(s)	• **Case co-ordination models** (for example, case management; collaborative care; key worker systems) • **Advocacy and support services** • **Multi-disciplinary team models (**for example, specialist assessment teams; specialist community teams; assertive community treatment teams) • **Models of care delivery** (for example, stepped care, clinical care pathways) • **Day care services (**including the model and content of services)

	• **Residential care** (including the model and content of services
• Comparison	Treatment-as-usual, standard care or other interventions
• Critical outcomes	Outcomes involving core features of autism (social interaction, communication, repetitive interests/activities); overall autistic behaviour; management of challenging behaviour; continuity of care, satisfaction with treatment, engagement, and healthcare utilisation (including access to treatment)
• Study design	• RCTs The GDG agreed by consensus that where there were no RCTs found in the evidence search, or the results from the RCTs were inconclusive, that the following studies would be included in the review of evidence: • observational • quasi-experimental • case series
• Minimum sample size	• RCT/Observational/Quasi-Experimental Studies:- N=10 per arm (ITT) • Case Series Studies:- N=10 in total Exclude studies with > 50% attrition from either arm of trial (unless adequate statistical methodology has been applied to account for missing data).
• Study setting	• Primary, secondary, tertiary, health and social care and healthcare settings (including prisons and forensic services) • Others in which NHS services are funded or provided, or NHS professionals are working in multi-agency teams
Electronic databases	AEI, AMED, ASSIA, BEI, CDSR, CENTRAL, CINAHL, DARE, Embase, ERIC, HMIC, Medline, PsycINFO, Sociological Abstracts, SSA
Date searched	RCT, QE, OS, case-series. Inception of DB up to 09/09/2011. Systematic reviews. 1995 up to 09/09/2011.
Searching other resources	Hand-reference searching of retrieved literature

The review strategy	• The initial aim is to conduct a meta-analysis evaluating the clinical effectiveness of the interventions. However, in the absence of adequate data, the literature will be presented via a narrative synthesis of the available evidence.
	• Narratively review literature that takes into consideration any amendments due to common mental health disorders.
	• Consider subgroup meta-analyses that takes into account the effectiveness of interventions as moderated by:-
	  • the nature and severity of the condition
	  • the presence of co-existing conditions?
	  • age
	  • the presence of sensory sensitivities (including pain thresholds)
	  • IQ
	  • language level

Note. autism = autism spectrum disorders; DSM = Diagnostic and Statistical Manual; ICD = International Classification of Diseases; RCT = Randomised Controlled Trial; QE = Quasi-experiemental; OS = Observational Study; AEI = Australian Education Index; AMED = Allied and Complementary Medicine; ASSIA = Applied Social Services Index and Abstracts; BEI = British Education Index; CDSR = Cochrane Database of Systematic Reviews; CENTRAL = Cochrane Central Register of Controlled Trials; CINAHL = Cumulative Index to Nursing and Allied Health Literature; DARE = Database of Abstracts and Reviews of Effectiveness; Embase = Excerpta Medica database; ERIC = Education Resources in Curriculum; HMIC = Health Management Information Consortium; Medline = Biomedical Information Database; PsycINFO = Psychological Information Database; SSA = Social Services Abstracts

APPENDIX 9: SEARCH STRATEGIES FOR THE IDENTIFICATION OF CLINICAL STUDIES

Search strategies

The search strategies should be referred to in conjunction with information set out in Section 3.5.2. Each search was constructed using the groups of terms as set out in Box 1. The full set of terms constructed for use in Medline follow on.

Box 1: Summary of systematic search strategies

Chapter: Case Identification and Assessment; Psychosocial Interventions; Biomedical Interventions; Organisation & Delivery of Care

Review question	Search type	Search construction	Study design limit	Databases / date range
CQ - A1, A2/A2a; CQ – B1, B2, B3; CQ - C1, C2, C3, C4, C5; C6 CQ - D1, D2; CQ – E1, E2; CQ – F1, F2;	Generic	[(ASC terms) AND (SR/RCT/QE/OS/ case-series study design filters)]	SR,RCT, QE, OS, case-series	Databases searched: AMED, ASSIA, Australian Education Index, British Education Index, CDSR, CENTRAL, CINAHL, DARE, Embase, Education Resources in Curriculum, HMIC, Medline, PsycINFO, Sociological Abstracts, Social Services Abstracts Date range searched: RCT, QE, OS, case-series: Inception of database up to 09.09.2011. SR: 1995 up to 09.09.2011.

Note. CQ = Review Question; Generic = broad search comprising terms for population and study design only; ASC = Autism spectrum conditions; SR = Systematic Review; RCT = Randomised Controlled Trial; QE = Quasi-experimental; OS = Observational Study.
Note. See Appendix 7 for full detail of review questions.

Chapter: Experience of Care

Review question	Search type	Search construction	Study design limit	Databases / date range
CQ – F1, F2	Generic, supplements search for quantitative evidence [above]	[(ASC terms) AND (Qualitative/ survey study design filters)]	Qualitative, Survey	Databases searched: CINAHL, Embase, HMIC, Medline, PsycINFO, PsycEXTRA, PsycBOOKS Date range searched: 01.01.1996 - 09.09.2011 ASSIA, IBSS, Social Services Abstracts, Sociological Abstracts Date range searched: 01.01.1996 - 10.10.2011

Note. CQ = Review Question; Generic = broad search comprising terms for population and study design only; ASC = Autism spectrum conditions.
Note. See Appendix 7 for full detail of review questions.

Chapter: Psychological and psychosocial interventions (includes support for families and carers)

Review question	Search type	Search construction	Study design limit	Databases / date range
CQ - C1 [subsection of question – search limited to psychosocial interventions aimed at behaviour management only]	Focused, supplements generic search for evidence on ASC	[(Intellectual disability terms) AND (behaviour management terms) AND (SR/RCT/QE/OS/case-series study design filters)]	SR,RCT, QE, OS, case-series	Databases searched: AMED, ASSIA, Australian Education Index, British Education Index, CDSR, CENTRAL, CINAHL, DARE, Embase, Education Resources in Curriculum, HMIC, Medline, PsycINFO, Sociological Abstracts, Social Services Abstracts Date range searched: RCT, QE, OS, case-series: Inception of database up to 09.09.2011. SR: 1995 up to 09.09.2011.
CQ - D1	Focused, supplements generic search for evidence on ASC	[(Intellectual disability terms) AND (support for family and carer terms) AND (SR/RCT/QE/OS/case-series study design filters)]	SR,RCT, QE, OS, case-series	Databases searched: AMED, ASSIA, Australian Education Index, British Education Index, CDSR, CENTRAL, CINAHL, DARE, Embase, Education Resources in Curriculum, HMIC, Medline, PsycINFO, Sociological Abstracts, Social Services Abstracts Date range searched: RCT, QE, OS, case-series: Inception of database up to 09.09.2011. SR: 1995 up to 09.09.2011.
Note. CQ = Review Question; Focused = specific search comprising terms for population, intervention and study design; SR = Systematic Review; RCT = Randomised Controlled Trial; QE = Quasi-experimental; OS = Observational Study. Note. See Appendix 7 for full detail of review questions.				
Chapter: Biomedical interventions				

Review question	Search type	Search construction	Study design limit	Databases / date range
CQ – C4 [subsection of question – search limited to biomedical interventions aimed at behaviour management only]	Focused, supplements generic search on ASC	[(Intellectual disability terms) AND (behaviour management terms) AND (SR/RCT/QE/OS/case-series study design filters)]	SR,RCT, QE, OS, case-series	Databases searched: AMED, ASSIA, Australian Education Index, British Education Index, CDSR, CENTRAL, CINAHL, DARE, Embase, Education Resources in Curriculum, HMIC, Medline, PsycINFO, Sociological Abstracts, Social Services Abstracts Date range searched: RCT, QE, OS, case-series: Inception of database up to 09.09.2011; SR: 1995 up to 09.09.2011.
Note. CQ = Review Question; Focused = specific search comprising terms for population, intervention and study design; SR = Systematic Review; RCT = Randomised Controlled Trial; QE = Quasi-experimental; OS = Observational Study. Note. See Appendix 7 for full detail of review questions.				
Chapter: Organisation and Delivery of Care				
Review question	**Search type**	**Search construction**	**Study design limit**	**Databases / date range**
CQ – E2 [subsection of question – search limited to residential care only]	Focused, supplements generic search on ASC	[(Intellectual disability terms) AND (residential care terms) AND (SR/RCT/QE/OS/case-series study design filters)]	SR,RCT, QE, OS, case-series	Databases searched: AMED, ASSIA, Australian Education Index, British Education Index, CDSR, CENTRAL, CINAHL, DARE, Embase, Education Resources in Curriculum, HMIC, Medline, PsycINFO, Sociological Abstracts, Social Services Abstracts Date range searched: RCT, QE, OS: Inception of database up to 09.09.2011; SR: 1995 up to 09.09.2011.
Note. CQ = Review Question; Focused = specific search comprising terms for population, intervention and study design; SR = Systematic Review; RCT = Randomised Controlled Trial; QE = Quasi-experimental; OS = Observational Study. Note. See Appendix 7 for full detail of review questions.				

1.1 Population Search terms

a) Autistic spectrum conditions (ASC) - population search terms

Medline – Ovid SP interface

1. asperger syndrome/or autistic disorder/or child development disorders, pervasive/ or rett syndrome/
2. (asperger$ or autis$ or cerebroatrophic hyperammonemia$ or (kanner$ adj (disorder$ or syndrome$)) or (pervasive$ adj2 (development$ or neurodevelopment$)) or pddnos or pdd nos or (rett$ adj (disorder$ or syndrome$))).ti,ab.
3. or/1-2

b) Intellectual disability – population search terms

Medline – Ovid SP interface

1. developmental disabilities/ or disabled persons/ or "education of mentally retarded"/ or education, special/ or exp learning disorders/ or exp mental retardation/ or mentally disabled persons/ or phenylketonurias/
2. ((developmental$ or intellect$ or language or learning or neurodevelopmental or phonologic$ or speech or vocabular$) adj2 delay$).ti,ab.
3. ((developmental$ or intellect$ or language or learning or neuro developmental$ or neurodevelopment$) adj2 (defect$ or deficien$ or deficit$ or difficult$ or disorder$ or disturbanc$ or dysfunction$ or impair$ or problem$ or subnormal$ or sub$ normal$)).ti,ab.
4. ((disabilit$ or disabled) adj3 (adult$ or aged or client$ or consumer$ or elderly or female$ or geriatric$ or individual$ or latelife or late life or male$1 or men or middle aged or midlife or mid life or old or older or patient$ or people$ or person$ or population$ or seniors or women)).ti,ab.
5. ((disabilit$ or disabled) adj3 (communicat$ or defect$ or deficien$ or deficit$ or developmental$ or dysfunction$ or functional or impair$ or multiple or intellect$ or language or learning or neurodevelopmental$ or phonologic$ or receptive or speech or subnormal$ or sub$ normal$ or vocabular$)).ti,ab.
6. ((down$ adj2 syndrom$) or (fragile adj3 syndrome) or oligophren$ or phenylketonuria).ti,ab.
7. ((handicap$ or handi cap$ or retard$1 or retardates or retarded) adj3 (developmental$ or functional or motor$ or multiple or neurodevelomental or psychomotor or severe)).ti,ab.

8. ((handicap$ or handi cap$ or retard$1 or retardates or retarded) adj3 (adult$ or aged or client$ or consumer$ or elderly or female$ or geriatric$ or individual$ or latelife or late life or male$1 or men or middle aged or midlife or mid life or old or older or patient$ or people$ or person$ or population$ or seniors or women)).ti,ab.
9. (mental$ adj2 (defect$ or deficien$ or deficit$ or disable$ or disabilit$ or impair$ or incapacit$ or subnormal$ or sub$1 normal$)).ti,ab.
10. (special adj (educat$ or need$)).ti,ab.
11. (cognitiv$ adj2 impair$).ti.
12. or/1-11

1.2 Question specific search strategies

a) Interventions aimed at behavioural management (sub-section of CQ-C1,C4)

CQ – C1: For adults with autism, what are the benefits and/or potential harms associated with different psychosocial interventions (e.g. applied behavioural analysis, cognitive behavioural therapy, mentoring, social groups, and befriending schemes)?

CQ – C4: For adults with autism, what is the effectiveness of biomedical interventions (e.g. dietary interventions, pharmacotherapy, and physical-environmental adaptations)?

Area searched: subsection of CQs – search limited to interventions aimed at behaviour management only

Medline – Ovid SP interface

1. behaviour/ or behavior control/
2. learning disorders/rh or mental retardation/rh
3. (adaptive adj (behavio?r$ or skill$)).ti,ab.
4. (behav$ adj3 (challenging or difficult$ or destructiv$ or disruptiv$ or disturbance$ or dysfunction$ or problem$)).ti,ab.
5. ((behav$ or challenging or destructiv$ or disruptiv$ or disturbance$ or dysfunction$ or interfering) adj2 (disorder$ or problem$ or symptom$ or syndrome$)).ti,ab.
6. ((decreas$ or improv$ or lower$ or reduc$) adj2 (behav$ or destructive$ or disruptive$ or interfering symptom$)).ti,ab.
7. aggression/ or exp anger/ or *"attention deficit and disruptive behavior disorders"/ or hostility/ or restraint, physical/ or self-injurious behaviour/ or self mutilation/ or violence/
8. (agitat$ or aggress$ or anger$ or hostil$ or rebel$ or retaliat$).ti,ab.
9. (biting or headbut$ or head but$ or hitting or kick$ or scream$ or spit or spitting or tantrum$ or troublesome).ti,ab.
10. (compulsive$ or repetitive$ or stereotypy).ti,ab.

11. (physical$ adj2 restrain$).ti,ab.
12. (selfharm$ or self harm$ or selfinjur$ or self injur$ or selfmutilat$ or self mutilat$ or selfdestruct$ or self destruct$ or (self adj2 cut$) or cutt$ or selfimmolat$ or self immolat$ or selfinflict$ or self inflict$ or automutilat$ or auto mutilat$).ti,ab.
13. or/1-12
14. exp behavior therapy/
15. "reinforcement (psychology)"/
16. (((behav$ or cognitiv$) adj3 (analy$ or interven$ or manag$ or program$ or therap$ or treat$ or workshop$ or work shop$)) or (behav$ adj2 (modif$ or control$)) or cbt).ti,ab.
17. (model?ing or prompting or reinforcement or re inforcement or self evaluat$).ti,ab.
18. (self care/ and (cognit$ or behavio?r$ or metacognit$ or recover$).tw,hw.) or (selfinstruct$ or selfmanag$ or selfattribut$ or (self$ adj (instruct$ or manag$ or attribution$)) or (rational$ adj3 emotiv$) or (rational adj (living or psychotherap$ or therap$)) or (ret adj (psychotherap$ or therap$)) or rebt or (active directive adj (psychotherap$ or therap$))).ti,ab.
19. (*activities of daily living/ and ((ed or rh or th).fs. or (educat$ or program$ or skill$ or teach$ or therap$).hw.)) or toilet training/
20. "education of mentally retarded"/
21. (self care or ((bathing or dressing or eating or feeding or grooming or homemak$ or hygien$ or leisure or toilet$ or undress$) adj3 (educat$ or instruct$ or interven$ or learn$ or program$ or promot$ or skill$ or taught$ or teach$ or train$))).ti,ab.
22. ((independen$ or life or living or (self adj (care or protect$)) or social or survival) adj2 (educat$ or instruct$ or interven$ or learn$ or program$ or skill$ or taught or teach$ or train$)).ti,ab.
23. (((communicat$ or interact$ or interpersonal$ or language$) adj3 (educat$ or instruct$ or interven$ or learn$ or program$ or skill$ or taught$ or teach$ or train$)) or social learn$).ti,ab.
24. ((adrenocorticotropic hormone/ or exp amantadine/ or exp anti-anxiety agents/ or exp anticonvulsants/ or exp antidepressive agents/ or exp antipsychotic agents/ or exp central nervous system stimulants/ or exp chelating agents/ or exp cholinesterase inhibitors/ or galantamine/ or melatonin/ or oxytocin/ or secretin/) or (diet/ or exp dietary supplements/ or exp minerals/ or exp vitamins/) or exp testosterone/) and behav$.ti,ab,hw.
25. or/14-24
26. or/13,25

b) Support for families and carers (CQ – D1)

CQ – D1: What information and day-to-day support do families and carers need:-
** during the initial period of assessment and diagnosis?*

* *when treatment and care is provided (e.g. telephone helpline, information packs, advocates or respite care, interpreters and other language tools)?*
* *during periods of crisis?*

Medline – Ovid SP interface

1. caregivers/ or family/ or family health/ or family relations/ or intergenerational relations/ or exp maternal behaviour/ or exp parent-child relations/ or parenting/ or exp parents/ or paternal behavior/ or professional-family relations/ or sibling relations/
2. (carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)).ti,ab.
3. or/1-2
4. audiovisual aids/ or books, illustrated/ or books/ or books, illustrated/ or cellular phone/ or computer user training/ or computers/ or education, distance/ or educational technology/ or electronic mail/ or exp health education/ or health knowledge, attitudes, practice/ or exp health promotion/ or hotlines/ or information dissemination/ or information seeking behaviour/ or exp internet/ or multimedia/ or pamphlets/ or software/ or exp tape recording/ or teaching materials/ or telemedicine/ or telephone/ or therapy, computer assisted/ or exp videodisc recording/ or writing/
5. day care/
6. family health/
7. friends/ or self help groups/ or exp social environment/
8. home care services/ or home care services, hospital based/ or exp home nursing/ or home health aides/or social support/
9. interpersonal relations/ or professional-family relations/ or social facilitation/
10. ed.fs. and 1
11. (advocate$ or advocacy).ti,ab.
12. ((audio$ or cd$1 or cd rom$ or cdrom$ or computer$ or cyber$ or dvd$1 or electronic$ or floppy or handheld or hand held or interactive or internet$ or manual$1 or mobile or online or palmtop or palm top or pc$1 or phone$1 or read$1 or reading or sms$1 or telephone$ or text or texts or texting or video$ or virtual or web$ or written or www) adj3 (approach$ or assist$ or coach$ or club$ or class$ or help$ or interven$ or learn$ or module$ or program$ or psychotherap$ or rehab$ or strateg$ or support$ or therap$ or treat$ or workshop$ or work shop$)).ti,ab.
13. (book$1 or booklet$ or brochure$ or educat$ or information$ or instruct$ or knowledge or leaflet$ or manual$1 or material$ or multi media or multimedia or ((oral or printed or written) adj3 inform$) or pamphlet$ or poster$ or psycho educat$ or psychoeducat$ or teach$ or train$ or video$ or workbook$ or work book$).ti,ab.

14. (call in or callline$ or call line$ or help line$ or helpline$ or hotline$ or hot line$ or phone in or phonein or (caller$1 adj3 (interven$ or program$ or therap$ or treat$))).ti,ab.
15. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj3 (approach$ or assist$ or coach$ or club$ or class$ or group$ or help$ or interven$ or learn$ or module$ or program$ or psychotherap$ or rehab$ or skill$ or strateg$ or support$ or therap$ or treat$ or workshop$ or work shop$)).ti,ab.
16. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj3 burden$).ti,ab.
17. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj5 (protect$ or relief or service$)).ti,ab.
18. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj8 (communicat$ or conversation$ or interact$)).ti,ab.
19. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj10 (communicat$ or interact$ or interpersonal or inter personal or talk$) adj10 (approach$ or assist$ or coach$ or club$ or class$ or group$ or help$ or interven$ or learn$ or module$ or program$ or psychotherap$ or rehab$ or strateg$ or support$ or therap$ or treat$)).ti,ab.
20. day care.ti,ab.
21. (health adj2 promot$).ti,ab.
22. ((home adj2 (care$ or nurs$ or service$)) or respite).ti,ab.
23. (interpreter$ or ((communicat$ or language or learning$ or speech) adj2 tool$) or special educator$).ti,ab.
24. (mutual adj (help or aid or support$)).ti,ab.
25. (selfhelp$ or self help$ or social support or (support$ adj2 (group$ or network$ or professional$))).ti,ab.
26. or/1-25

c) Residential care (sub-section of CQ – E2)

CQ-E2: For adults with ASC, what are the essential elements in the effective provision of:

* *support services for the individual (including accessing and using services)?*
* *day care?*
* *residential care?*

Area searched: subsection of CQ – search limited to residential care only

Medline – Ovid SP interface

1. deinstitutionalization/ or home care services / or home care aides/ or home care services, hospital-based/ or exp home nursing/ or exp housing/ or independent living programs/ or institutionalization/ or long term care/ or exp residential facilities/ or residential treatment/
2. accommodation.ti,ab.
3. (aged care facilit$ or ((care or group$ or nursing or old age) adj2 home$)).ti,ab.
4. apartment$.ti,ab.
5. ((campus$ or cluster$ or dispersed) adj3 (accomodat$ or centre$ or center$ or communit$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or model$ or neighbour$ or place$1 or placement$ or resident$ or setting$ or unit$)).ti,ab.
6. (communit$ adj3 (accomodat$ or campus$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or place$1 or placement$ or resident$ or unit$)) .ti,ab.
7. (communit$ adj2 (discharg$ or move$ or moving or relocat$)).ti,ab.
8. concept hous$.ti,ab.
9. (deinstitutionali$ or institutionali$).ti,ab.
10. developmental cent$.ti,ab.
11. (disabled adj2 communit$).ti,ab.
12. dwelling$.ti,ab.
13. (flatemate or housemate$ or ((flat or house) adj mate$)).ti,ab.
14. ((home$1 or hous$ or living or resident$) adj4 (assist$ or support$)).ti,ab.
15. (home adj2 (care$ or nurs$ or service$)).ti,ab.
16. (hostel$ or shelter$).ti,ab.
17. housing.ti,ab.
18. (independ?n$ adj3 (accomodat$ or care or centre$ or center$ or communit$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or placement$ or resident$ or setting$ or unit$)).ti,ab.
19. ((intentional or congregat$ or village$) adj2 (communit$ or setting$)).ti,ab.
20. ((institution$ or intensive or out of$1) adj3 (care$ or living or placement$ or place$1 or resident$ or setting$)).ti,ab.
21. (live in$1 or (out adj2 home$)).ti,ab.

22. (((long term or extended) adj care) or long stay).ti,ab.
23. ((rent$ or own$) adj2 (accommodat$ or home$1 or hous$ or resident$)).ti,ab.
24. (residence$ or residential).ti,ab.
25. (resident$ adj3 (accomodat$ or care or centre$ or center$ or communit$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or model$ or neighbour$ or place$1 or placement$ or program$ or provision$ or service$ or setting$ or unit$)).ti,ab.
26. ((special or support$) adj2 living).ti,ab.
27. (staffed adj3 (accomodat$ or centre$ or center$ or complex$ or facilit$ or home$ or hous$ or institution$ or living$ or model$ or neighbourhood$ or placement$ or resident$ or setting$ or unit$)).ti,ab.
28. *[TEXTWORD SEARCHES FOR INTELLECTUAL DISABILITY POPULATION SEARCH TERMS*] adj5 (accommodat$ or home$1 or hous$ or living or resident$).ti,ab.
29. or/1-28

1.3 Study design search filters

a) Systematic review search filter – adaptated from a filter designed by the Health Information Research Unit of the McMaster University, Ontario.

Medline – Ovid SP interface

1. meta analysis/ or "review literature as topic"/
2. (exp databases, bibliographic/ or (((electronic or computer$ or online) adj database$) or bids or cochrane or embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review$.ti,ab,sh. or systematic$.ti,ab.)
3. ((analy$ or assessment$ or evidence$ or methodol$ or qualitativ$ or quantativ$ or systematic$) adj2 (overview$ or review$)).ti,ab.
4. ((analy$ or assessment$ or evidence$ or methodol$ or quantativ$ or qualitativ$ or systematic$).ti. and review$.ti,sh,pt.)
5. (systematic$ adj2 search$).ti,ab.
6. (metaanal$ or meta anal$ or metareview$ or meta review$ or metasynthes$ or meta synthes$).ti,ab.
7. (research adj (review$ or integration)).ti,ab.
8. reference list$.ab.
9. bibliograph$.ab.
10. published studies.ab.
11. relevant journals.ab.
12. selection criteria.ab.
13. (data adj (extraction or synthesis)).ab.
14. (handsearch$ or ((hand or manual) adj search$)).ti,ab.
15. (mantel haenszel or peto or dersimonian or der simonian).ti,ab.

16. (fixed effect$ or random effect$).ti,ab.
17. ((pool$ or combined or combining) adj2 (data or trials or studies or results)).ti,ab.
18. or/1-17

b) RCT search filter – adaptated from a filter designed by the Health Information Research Unit of the McMaster University, Ontario.

Medline – Ovid SP interface

1. exp clinical trial/ or cross-over studies/ or double-blind method/ or placebos/ or random allocation/ or randomization/ or randomized controlled trials as topic/ or single-blind method/
2. (clinical adj2 trial$).ti,ab.
3. (crossover or cross over).ti,ab.
4. (((single$ or doubl$ or trebl$ or tripl$) adj2 blind$) or mask$ or dummy or singleblind$ or doubleblind$ or trebleblind$ or tripleblind$).ti,ab.
5. (placebo$ or random$).ti,ab.
6. animals/ not humans/
7. or/1-5 not 6

c) Quasi-experimental study filter – developed in house.

Medline – Ovid SP interface

1. (((nonequivalent or non equivalent) adj3 control$) or posttest$ or post test$ or pre test$ or pretest$ or quasi$ or timeseries or time series).tw.

d) Observational and case series study filter – developed in house.

Medline– Ovid SP interface

1. case-control studies/ or cohort studies/ or cross-sectional studies/ or epidemiologic studies/ or follow-up studies/ or longitudinal studies/ or prospective studies/ or retrospective studies/
2. cohort$.ti,ab.
3. (case$ adj2 (control$ or series)).ti,ab.
4. or/1-3

e) Qualitative/survey literature study filter – developed in house.

Medline – Ovid SP interface

1. anthropology, cultural/ or cluster analysis/ or ethnology/ or focus groups/ or interview/ or exp interviews as topic/ or narration/ or nursing methodology research/ or observation/ or personal narratives/ or qualitative research/ or sampling studies/ or exp tape recording/ or videodisc recording/
2. action research.ti,ab.
3. (((audio or tape or video$) adj2 record$) or audiorecord$ or taperecord$ or videorecord$ or videotap$).ti,ab.
4. (colaizzi$ or giorgi$ or glaser or heidegger$ or hermeneutic$ or husserl$ or spiegelberg$ or strauss).ti,ab.
5. (constant adj (comparative or comparison)).ti,ab.
6. (content analy$ or (field adj (note$ or record$ or research$ or stud$)) or fieldnote$).ti,ab.
7. (critical social$ or ethical enquiry or (pilot testing and survey) or shadowing or ((philosophical or social) adj research$)).ti,ab.
8. (cross case analys$ or (meta adj (ethno$ or narrative$ or overview or synthes$ or summar$ or stud$)) or metaethno$ or metanarrative$ or metaoverview$ or metasynthes$ or metasummar$ or metastud$).ti,ab.
9. (data adj1 saturat$).ti,ab.
10. discourse analys?s.ti,ab.
11. (ethno$ or emic or etic or heuristic or phenomenolog$ or qualitative or semiotics).ti,ab.
12. ((focus adj2 (group$ or sampl$)) or ((life or lived) adj experience$) or narrat$).ti,ab.
13. ((focus$ or structured) adj2 interview$).ti,ab.
14. (grounded adj (theor$ or study or research or studies)).ti,ab.
15. human science.ti,ab.
16. (maximum variation or snowball).ti,ab.
17. (merleau or theoretical sampl$ or ricoeur or spiegelberg$).ti,ab.
18. ((participant$ or nonparticipant$) adj3 observ$).ti,ab.
19. purpos$ sampl$.ti,ab.
20. (story or stories or storytell$ or story tell$).ti,ab.
21. testimon$.ti,ab.
22. (structured categor$ or unstructured categor$).ti,ab.
23. ((thematic$ adj3 analys$) or themes).ti,ab.
24. (van kaam$ or van manen).ti,ab.
25. or/1-24
26. health care surveys/ or exp health surveys/
27. (question$ or survey$).ti,ab.
28. attitude/ or exp attitude to health/
29. (attitude$ or experien$).ti,ab.
30. or/26-27 and or/28-29
31. *[TEXTWORD SEARCHES FOR ASC POPULATION SEARCH TERMS]* and (attitude$ or experienc$ or needs or opinion$ or perception$ or perspective$ or preference$ or satisf$ or view$) and (adult$1 or attendee$ or attender$ or client$ or consumer$ or individuals or

inpatient$ or men or minorities or outpatient$ or participant$ or patient$ or people or population or public or respondent$ or subjects or survivor$ or women or user$ or care giver$ or caregiver$ or carer$ or (care adj (giver$ or manager$ or worker$)) or family or families or father$ or guardian$ or mother$ or parent$)).ti.

32. ((adult$1 or attendee$ or attender$ or client$ or consumer$ or individuals or inpatient$ or men or minorities or outpatient$ or participant$ or patient$ or people or population or public or respondent$ or subjects or survivor$ or women or user$ or (care giver$ or caregiver$ or carer$ or (care adj (giver$ or manager$ or worker$)) or family or families or father$ or guardian$ or mother$ or parent$) adj2 (attitude$ or experience$ or needs or opinion$ or perception$ or perspective$ or preference$ or satisf$ or view$)).ti,ab.
33. or/31-32
34. or/25,30,33

APPENDIX 10: QUALITY CHECKLISTS FOR CLINICAL STUDIES AND REVIEWS

The methodological quality of each study was evaluated using NICE checklists (NICE, 2009e). The checklists for systematic reviews and for RCTs are reproduced below (for other checklists and further information about how to complete each checklist, see *The Guidelines Manual* [NICE, 2009e]). The completed checklists can be found in Appendix 16.

Methodology checklist: systematic reviews and meta-analyses

Study identification *Include author, title, reference, year of publication*	
Guideline topic:	Review question no:
Checklist completed by:	
SCREENING QUESTIONS	
In a well-conducted, relevant systematic review:	*Circle one option for each question*
The review addresses an appropriate and clearly focused question that is relevant to the guideline review question	Yes No Unclear
The review collects the type of studies you consider relevant to the guideline review question	Yes No Unclear
The literature search is sufficiently rigorous to identify all the relevant studies	Yes No Unclear
Study quality is assessed and reported	Yes No Unclear
An adequate description of the methodology used is included, and the methods used are appropriate to the question	Yes No Unclear

Methodology checklist: RCTs

Study identification Include author, title, reference, year of publication		
Guideline topic:		Review question no:
Checklist completed by:		
		Circle one option for each question
A. Selection bias (systematic differences between the comparison groups)		
A1	An appropriate method of randomisation was used to allocate participants to treatment groups (which would have balanced any confounding factors equally across groups)	Yes No Unclear N/A
A2	There was adequate concealment of allocation (such that investigators, clinicians and participants cannot influence enrolment or treatment allocation)	Yes No Unclear N/A
A3	The groups were comparable at baseline, including all major confounding and prognostic factors	Yes No Unclear N/A
Based on your answers to the above, in your opinion was selection bias present? If so, what is the likely direction of its effect?		
Low risk of bias Unclear/unknown risk High risk of bias		
Likely direction of effect:		
B. Performance bias (systematic differences between groups in the care provided, apart from the intervention under investigation)		
B1	The comparison groups received the same care apart from the intervention(s) studied	Yes No Unclear N/A
B2	Participants receiving care were kept 'blind' to treatment allocation	Yes No Unclear N/A
B3	Individuals administering care were kept 'blind' to treatment allocation	Yes No Unclear N/A
Based on your answers to the above, in your opinion was performance bias present? If so, what is the likely direction of its effect?		
Low risk of bias Unclear/unknown risk High risk of bias		
Likely direction of effect:		
C. Attrition bias (systematic differences between the comparison groups with respect to loss of participants)		

C1	All groups were followed up for an equal length of time (or analysis was adjusted to allow for differences in length of follow-up)	Yes No Unclear N/A
C2	a. How many participants did not complete treatment in each group?	
	b. The groups were comparable for treatment completion (that is, there were no important or systematic differences between groups in terms of those who did not complete treatment)	Yes No Unclear N/A
C3	a. For how many participants in each group were no outcome data available?	
	b. The groups were comparable with respect to the availability of outcome data (that is, there were no important or systematic differences between groups in terms of those for whom outcome data were not available).	Yes No Unclear N/A
Based on your answers to the above, in your opinion was attrition bias present? If so, what is the likely direction of its effect?		
Low risk of bias Unclear/unknown risk High risk of bias		
Likely direction of effect:		
D. Detection bias (bias in how outcomes are ascertained, diagnosed or verified)		
D1	The study had an appropriate length of follow-up	Yes No Unclear N/A
D2	The study used a precise definition of outcome	Yes No Unclear N/A
D3	A valid and reliable method was used to determine the outcome	Yes No Unclear N/A
D4	Investigators were kept 'blind' to participants' exposure to the intervention	Yes No Unclear N/A
D5	Investigators were kept 'blind' to other important confounding and prognostic factors	Yes No Unclear N/A
Based on your answers to the above, in your opinion was detection bias present? If so, what is the likely direction of its effect?		
Low risk of bias Unclear/unknown risk High risk of bias		
Likely direction of effect:		

APPENDIX 11: SEARCH STRATEGIES FOR THE IDENTIFICATION OF HEALTH ECONOMICS EVIDENCE

Search strategies for the identification of health economics and quality-of-life studies.

The search strategies should be referred to in conjunction with information set out in Section 3.6.1. Each search was constructed using the groups of terms as set out in Box 1. The full set of terms constructed for use in Medline follow on.

Box 1: Summary of systematic health economic search strategies				
Chapter: Case Identification and Assessment; Psychosocial Interventions; Biomedical Interventions; Organisation & Delivery of Care				
Review question	**Search type**	**Search construction**	**Study design limit**	**Databases / date range**
CQ - A1, A2/A2a; CQ – B1, B2, B3; CQ - C1, C2, C3, C4, C5; C6 CQ - D1, D2; CQ – E1, E2; CQ – F1, F2;	Generic	[(ASC terms) AND (HE/QoL study design filter)]	HE/QoL	Databases searched: Econlit, Embase, HTA database, Medline, NHS EED, PsycINFO Date range searched: 1996 up to 09.09.2011.
Note. CQ = Review Question; Generic = broad search comprising terms for population and study design only; ASC = Autism spectrum conditions; HE = health economics; QoL = quality of life. Note. See Appendix 7 for full detail of review questions.				
Chapter: Psychological and psychosocial interventions (includes support for families and carers)				

Review question	Search type	Search construction	Study design limit	Databases / date range
CQ - C1 [subsection of question – search limited to psychosocial interventions aimed at behaviour management only]	Focused, supplements generic search for evidence on ASC	[(Intellectual disability terms) AND (behaviour management terms) AND (HE/QoL study design filter)]	HE/QoL	Databases searched: Econlit, Embase, HTA database, Medline, NHS EED, PsycINFO Date range searched: 1996 up to 09.09.2011.
CQ - D1	Focused, supplements generic search for evidence on ASC	[(Intellectual disability terms) AND (support for family and carer terms) AND (HE/QoL study design filter)]	HE/QoL	Databases searched: Econlit, Embase, HTA database, Medline, NHS EED, PsycINFO Date range searched: 1996 up to 09.09.2011.
Note. CQ = Review Question; Focused = specific search comprising terms for population, intervention and study design; ASC = Autism spectrum conditions; HE = health economics; QoL = quality of life. Note. See Appendix 7 for full detail of review questions.				
Chapter: Biomedical interventions				

Review question	Search type	Search construction	Study design limit	Databases / date range
CQ – C4 [subsection of question – search limited to biomedical interventions aimed at behaviour management only]	Focused, supplements generic search on ASC	[(Intellectual disability terms) AND (behaviour management terms) AND (HE/QoL study design filter)]	HE/QoL	Databases searched: Econlit, Embase, HTA database, Medline, NHS EED, PsycINFO Date range searched: 1996 up to 09.09.2011.
Note. CQ = Review Question; Focused = specific search comprising terms for population, intervention and study design; ASC = Autism spectrum conditions; HE = health economics; QoL = quality of life. Note. See Appendix 7 for full detail of review questions.				
Chapter: Organisation and Delivery of Care				
Review question	**Search type**	**Search construction**	**Study design limit**	**Databases / date range**
CQ – E2 [subsection of question – search limited to residential care only]	Focused, supplements generic search on ASC	[(Intellectual disability terms) AND (residential care terms) AND (HE/QoL study design filter)]	HE/QoL	Databases searched: Econlit, Embase, HTA database, Medline, NHS EED, PsycINFO Date range searched: 1996 up to 09.09.2011.
Note. CQ = Review Question; Focused = specific search comprising terms for population, intervention and study design; ASC = Autism spectrum conditions; HE = health economics; QoL = quality of life. Note. See Appendix 7 for full detail of review questions.				

1.1 Population Search terms

a) Autistic spectrum conditions (ASC) - population search terms

Medline – Ovid SP interface

1. asperger syndrome/or autistic disorder/or child development disorders, pervasive/ or rett syndrome/
2. (asperger$ or autis$ or cerebroatrophic hyperammonemia$ or (kanner$ adj (disorder$ or syndrome$)) or (pervasive$ adj2 (development$ or neurodevelopment$)) or pddnos or pdd nos or (rett$ adj (disorder$ or syndrome$))).ti,ab.
3. or/1-2

b) Intellectual disability – population search terms

Medline – Ovid SP interface

1. developmental disabilities/ or disabled persons/ or "education of mentally retarded"/ or education, special/ or exp learning disorders/ or exp mental retardation/ or mentally disabled persons/ or phenylketonurias/
2. ((developmental$ or intellect$ or language or learning or neurodevelopmental or phonologic$ or speech or vocabular$) adj2 delay$).ti,ab.
3. ((developmental$ or intellect$ or language or learning or neuro developmental$ or neurodevelopment$) adj2 (defect$ or deficien$ or deficit$ or difficult$ or disorder$ or disturbanc$ or dysfunction$ or impair$ or problem$ or subnormal$ or sub$ normal$)).ti,ab.
4. ((disabilit$ or disabled) adj3 (adult$ or aged or client$ or consumer$ or elderly or female$ or geriatric$ or individual$ or latelife or late life or male$1 or men or middle aged or midlife or mid life or old or older or patient$ or people$ or person$ or population$ or seniors or women)).ti,ab.
5. ((disabilit$ or disabled) adj3 (communicat$ or defect$ or deficien$ or deficit$ or developmental$ or dysfunction$ or functional or impair$ or multiple or intellect$ or language or learning or neurodevelopmental$ or phonologic$ or receptive or speech or subnormal$ or sub$ normal$ or vocabular$)).ti,ab.
6. ((down$ adj2 syndrom$) or (fragile adj3 syndrome) or oligophren$ or phenylketonuria).ti,ab.
7. ((handicap$ or handi cap$ or retard$1 or retardates or retarded) adj3 (developmental$ or functional or motor$ or multiple or neurodevelomental or psychomotor or severe)).ti,ab.
8. ((handicap$ or handi cap$ or retard$1 or retardates or retarded) adj3 (adult$ or aged or client$ or consumer$ or elderly or female$ or geriatric$ or individual$ or latelife or late life or male$1 or men or middle aged or midlife or mid life or old or older or patient$ or people$ or person$ or population$ or seniors or women)).ti,ab.

9. (mental$ adj2 (defect$ or deficien$ or deficit$ or disable$ or disabilit$ or impair$ or incapacit$ or subnormal$ or sub$1 normal$)).ti,ab.
10. (special adj (educat$ or need$)).ti,ab.
11. (cognitiv$ adj2 impair$).ti.
12. or/1-11

1.2 Question specific search strategies

a) Interventions aimed at behavioural management (sub-section of CQ-C1,C4)

CQ – C1: For adults with autism, what are the benefits and/or potential harms associated with different psychosocial interventions (e.g. applied behavioural analysis, cognitive behavioural therapy, mentoring, social groups, and befriending schemes)?

CQ – C4: For adults with autism, what is the effectiveness of biomedical interventions (e.g. dietary interventions, pharmacotherapy, and physical-environmental adaptations)?

Area searched: subsection of CQs – search limited to interventions aimed at behaviour management only

Medline – Ovid SP interface

1. behaviour/ or behavior control/
2. learning disorders/rh or mental retardation/rh
3. (adaptive adj (behavio?r$ or skill$)).ti,ab.
4. (behav$ adj3 (challenging or difficult$ or destructiv$ or disruptiv$ or disturbance$ or dysfunction$ or problem$)).ti,ab.
5. ((behav$ or challenging or destructiv$ or disruptiv$ or disturbance$ or dysfunction$ or interfering) adj2 (disorder$ or problem$ or symptom$ or syndrome$)).ti,ab.
6. ((decreas$ or improv$ or lower$ or reduc$) adj2 (behav$ or destructive$ or disruptive$ or interfering symptom$)).ti,ab.
7. aggression/ or exp anger/ or *"attention deficit and disruptive behavior disorders"/ or hostility/ or restraint, physical/ or self-injurious behaviour/ or self mutilation/ or violence/
8. (agitat$ or aggress$ or anger$ or hostil$ or rebel$ or retaliat$).ti,ab.
9. (biting or headbut$ or head but$ or hitting or kick$ or scream$ or spit or spitting or tantrum$ or troublesome).ti,ab.
10. (compulsive$ or repetitive$ or stereotypy).ti,ab.
11. (physical$ adj2 restrain$).ti,ab.
12. (selfharm$ or self harm$ or selfinjur$ or self injur$ or selfmutilat$ or self mutilat$ or selfdestruct$ or self destruct$ or (self adj2 cut$) or cutt$ or selfimmolat$ or self immolat$ or selfinflict$ or self inflict$ or automutilat$ or auto mutilat$).ti,ab.
13. or/1-12

14. exp behavior therapy/
15. "reinforcement (psychology)"/
16. (((behav$ or cognitiv$) adj3 (analy$ or interven$ or manag$ or program$ or therap$ or treat$ or workshop$ or work shop$)) or (behav$ adj2 (modif$ or control$)) or cbt).ti,ab.
17. (model?ing or prompting or reinforcement or re inforcement or self evaluat$).ti,ab.
18. (self care/ and (cognit$ or behavio?r$ or metacognit$ or recover$).tw,hw.) or (selfinstruct$ or selfmanag$ or selfattribut$ or (self$ adj (instruct$ or manag$ or attribution$)) or (rational$ adj3 emotiv$) or (rational adj (living or psychotherap$ or therap$)) or (ret adj (psychotherap$ or therap$)) or rebt or (active directive adj (psychotherap$ or therap$))).ti,ab.
19. (*activities of daily living/ and ((ed or rh or th).fs. or (educat$ or program$ or skill$ or teach$ or therap$).hw.)) or toilet training/
20. "education of mentally retarded"/
21. (self care or ((bathing or dressing or eating or feeding or grooming or homemak$ or hygien$ or leisure or toilet$ or undress$) adj3 (educat$ or instruct$ or interven$ or learn$ or program$ or promot$ or skill$ or taught$ or teach$ or train$))).ti,ab.
22. ((independen$ or life or living or (self adj (care or protect$)) or social or survival) adj2 (educat$ or instruct$ or interven$ or learn$ or program$ or skill$ or taught or teach$ or train$)).ti,ab.
23. (((communicat$ or interact$ or interpersonal$ or language$) adj3 (educat$ or instruct$ or interven$ or learn$ or program$ or skill$ or taught$ or teach$ or train$)) or social learn$).ti,ab.
24. ((adrenocorticotropic hormone/ or exp amantadine/ or exp anti-anxiety agents/ or exp anticonvulsants/ or exp antidepressive agents/ or exp antipsychotic agents/ or exp central nervous system stimulants/ or exp chelating agents/ or exp cholinesterase inhibitors/ or galantamine/ or melatonin/ or oxytocin/ or secretin/) or (diet/ or exp dietary supplements/ or exp minerals/ or exp vitamins/) or exp testosterone/) and behav$.ti,ab,hw.
25. or/14-24
26. or/13,25

b) Support for family and carers (CQ – D1)

CQ – D1: What information and day-to-day support do families and carers need:-

* *during the initial period of assessment and diagnosis?*
* *when treatment and care is provided (e.g. telephone helpline, information packs, advocates or respite care, interpreters and other language tools)?*
* *during periods of crisis?*

Medline – Ovid SP interface

1. caregivers/ or family/ or family health/ or family relations/ or intergenerational relations/ or exp maternal behaviour/ or exp parent-child

relations/ or parenting/ or exp parents/ or paternal behavior/ or professional-family relations/ or sibling relations/

2. (carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)).ti,ab.
3. or/1-2
4. audiovisual aids/ or books, illustrated/ or books/ or books, illustrated/ or cellular phone/ or computer user training/ or computers/ or education, distance/ or educational technology/ or electronic mail/ or exp health education/ or health knowledge, attitudes, practice/ or exp health promotion/ or hotlines/ or information dissemination/ or information seeking behaviour/ or exp internet/ or multimedia/ or pamphlets/ or software/ or exp tape recording/ or teaching materials/ or telemedicine/ or telephone/ or therapy, computer assisted/ or exp videodisc recording/ or writing/
5. day care/
6. family health/
7. friends/ or self help groups/ or exp social environment/
8. home care services/ or home care services, hospital based/ or exp home nursing/ or home health aides/or social support/
9. interpersonal relations/ or professional-family relations/ or social facilitation/
10. ed.fs. and 1
11. (advocate$ or advocacy).ti,ab.
12. ((audio$ or cd$1 or cd rom$ or cdrom$ or computer$ or cyber$ or dvd$1 or electronic$ or floppy or handheld or hand held or interactive or internet$ or manual$1 or mobile or online or palmtop or palm top or pc$1 or phone$1 or read$1 or reading or sms$1 or telephone$ or text or texts or texting or video$ or virtual or web$ or written or www) adj3 (approach$ or assist$ or coach$ or club$ or class$ or help$ or interven$ or learn$ or module$ or program$ or psychotherap$ or rehab$ or strateg$ or support$ or therap$ or treat$ or workshop$ or work shop$)).ti,ab.
13. (book$1 or booklet$ or brochure$ or educat$ or information$ or instruct$ or knowledge or leaflet$ or manual$1 or material$ or multi media or multimedia or ((oral or printed or written) adj3 inform$) or pamphlet$ or poster$ or psycho educat$ or psychoeducat$ or teach$ or train$ or video$ or workbook$ or work book$).ti,ab.
14. (call in or callline$ or call line$ or help line$ or helpline$ or hotline$ or hot line$ or phone in or phonein or (caller$1 adj3 (interven$ or program$ or therap$ or treat$))).ti,ab.
15. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj3 (approach$ or assist$ or coach$ or club$ or class$ or group$ or help$ or interven$ or learn$ or module$ or

program$ or psychotherap$ or rehab$ or skill$ or strateg$ or support$ or therap$ or treat$ or workshop$ or work shop$)).ti,ab.
16. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj3 burden$).ti,ab.
17. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj5 (protect$ or relief or service$)).ti,ab.
18. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj8 (communicat$ or conversation$ or interact$)).ti,ab.
19. ((carer$1 or caregiv$ or care taker$ or caretaker$ or custodian$ or family or families or father$ or guardian$ or mother$ or parent$ or spouse$ or stepparent$ or ((communicat$ or conversation$ or familiar or interact$ or language or speech) adj2 partner$)) adj10 (communicat$ or interact$ or interpersonal or inter personal or talk$) adj10 (approach$ or assist$ or coach$ or club$ or class$ or group$ or help$ or interven$ or learn$ or module$ or program$ or psychotherap$ or rehab$ or strateg$ or support$ or therap$ or treat$)).ti,ab.
20. day care.ti,ab.
21. (health adj2 promot$).ti,ab.
22. ((home adj2 (care$ or nurs$ or service$)) or respite).ti,ab.
23. (interpreter$ or ((communicat$ or language or learning$ or speech) adj2 tool$) or special educator$).ti,ab.
24. (mutual adj (help or aid or support$)).ti,ab.
25. (selfhelp$ or self help$ or social support or (support$ adj2 (group$ or network$ or professional$))).ti,ab.
26. or/1-25

c) Residential care (sub-section of CQ – E2)

CQ-E2: For adults with ASC, what are the essential elements in the effective provision of:
* *support services for the individual (including accessing and using services)?*
* *day care?*
* *residential care?*

Area searched: subsection of CQ – search limited to residential care only

Medline – Ovid SP interface

1. deinstitutionalization/ or home care services / or home care aides/ or home care services, hospital-based/ or exp home nursing/ or exp housing/ or independent living programs/ or institutionalization/ or long term care/ or exp residential facilities/ or residential treatment/
2. accommodation.ti,ab.
3. (aged care facilit$ or ((care or group$ or nursing or old age) adj2 home$)).ti,ab.
4. apartment$.ti,ab.
5. ((campus$ or cluster$ or dispersed) adj3 (accomodat$ or centre$ or center$ or communit$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or model$ or neighbour$ or place$1 or placement$ or resident$ or setting$ or unit$)).ti,ab.
6. (communit$ adj3 (accomodat$ or campus$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or place$1 or placement$ or resident$ or unit$)) .ti,ab.
7. (communit$ adj2 (discharg$ or move$ or moving or relocat$)).ti,ab.
8. concept hous$.ti,ab.
9. (deinstitutionali$ or institutionali$).ti,ab.
10. developmental cent$.ti,ab.
11. (disabled adj2 communit$).ti,ab.
12. dwelling$.ti,ab.
13. (flatemate or housemate$ or ((flat or house) adj mate$)).ti,ab.
14. ((home$1 or hous$ or living or resident$) adj4 (assist$ or support$)).ti,ab.
15. (home adj2 (care$ or nurs$ or service$)).ti,ab.
16. (hostel$ or shelter$).ti,ab.
17. housing.ti,ab.
18. (independ?n$ adj3 (accomodat$ or care or centre$ or center$ or communit$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or placement$ or resident$ or setting$ or unit$)).ti,ab.
19. ((intentional or congregat$ or village$) adj2 (communit$ or setting$)).ti,ab.
20. ((institution$ or intensive or out of$1) adj3 (care$ or living or placement$ or place$1 or resident$ or setting$)).ti,ab.
21. (live in$1 or (out adj2 home$)).ti,ab.
22. (((long term or extended) adj care) or long stay).ti,ab.
23. ((rent$ or own$) adj2 (accommodat$ or home$1 or hous$ or resident$)).ti,ab.
24. (residence$ or residential).ti,ab.
25. (resident$ adj3 (accomodat$ or care or centre$ or center$ or communit$ or complex$ or facilit$ or home$ or hous$ or institution$ or living or model$ or neighbour$ or place$1 or placement$ or program$ or provision$ or service$ or setting$ or unit$)).ti,ab.
26. ((special or support$) adj2 living).ti,ab.
27. (staffed adj3 (accomodat$ or centre$ or center$ or complex$ or facilit$ or home$ or hous$ or institution$ or living$ or model$ or neighbourhood$ or placement$ or resident$ or setting$ or unit$)).ti,ab.

28. *[TEXTWORD SEARCHES FOR INTELLECTUAL DISABILITY POPULATION SEARCH TERMS*] adj5 (accommodat$ or home$1 or hous$ or living or resident$).ti,ab.
29. or/1-28

1.3 Study design search filters

a) Health economics and quality of life search filter – an adaptation of a filter designed by the Centre for Reviews and Dissemination (CRD) (2007).

Medline – Ovid SP interface

1. exp budgets/ or exp "costs and cost analysis"/or economics/ or exp economics, hospital/or exp economics, medical/ or economics, nursing/ or economics, pharmaceutical/ or exp "fees and charges"/ or exp resource allocation/ or value of life/
2. (budget$ or cost$ or econom$ or expenditure$ or fee or fees or financ$ or fund or funds or funding$ or funded or (expenditure$ not energy) or pharmacoeconomic$ or price or prices or pricing or ration or rations or rationing$ or rationed or resource$ allocat$ or saving or (value adj2 (monetary or money))).ti,ab.
3. ec.fs. and *[SUBJECT HEADING SEARCH FOR ASD POPULATION]*
4. or/1-3
5. exp decision theory/ or markov chains/ or exp models, economic/ or *models, organizational/ or *models, theoretical/ or monte carlo method/
6. (decision adj (analy$ or model$ or tree$)).ti,ab.
7. economic model$.ti,ab.
8. markov.ti,ab.
9. monte carlo.ti,ab.
10. or/5-9
11. quality-adjusted life years/ or sickness impact profile/
12. (((disability or quality) adj adjusted) or (adjusted adj2 life)).ti,ab.
13. (disutili$ or (utilit$ adj1 (health or score$ or value$ or weigh$))).ti,ab.
14. (health year equivalent or hye or hyes).ti,ab.
15. (daly or qal or qald or qale or qaly or qtime$ or qwb$).ti,ab.
16. discrete choice.ti,ab.
17. (euroqol$ or euro qol$ or eq5d$ or eq 5d$).ti,ab.
18. (hui or hui1 or hui2 or hui3).ti,ab.
19. ((quality or value$) adj3 (life or survival or well$)).ti,ab.
20. (qol or hql$ or hqol$or h qol$ or hrqol or hr qol or hr ql or hrql).ti,ab.
21. rosser.ti,ab.
22. sickness impact profile.ti,ab.
23. (standard gamble or time trade$ or tto or willingness to pay).ti,ab.

24. (sf36 or sf 36 or short form 36 or shortform 36 or sf thirtysix or sf thirty six or shortform thirtysix or shortform thirty six or short form thirtysix or short form thirty six).ti,ab.
25. (sf6 or sf 6 or short form 6 or shortform 6 or sf six or sfsix or shortform six or short form six).ti,ab.
26. (sf12 or sf 12 or short form 12 or shortform 12 or sf twelve or sftwelve or shortform twelve or short form twelve).ti,ab.
27. (sf16 or sf 16 or short form 16 or shortform 16 or sf sixteen or sfsixteen or shortform sixteen or short form sixteen).ti,ab
28. (sf20 or sf 20 or short form 20 or shortform 20 or sf twenty or sftwenty or shortform twenty or short form twenty).ti,ab.
29. or/11-28
30. or/4,10,29

APPENDIX 12: METHODOLOGY CHECKLIST FOR ECONOMIC STUDIES

This checklist is designed to determine whether an economic evaluation provides evidence that is useful to inform the decision-making of the GDG. It is not intended to judge the quality of the study per se or the quality of reporting. For further information about how to complete the checklist, see *The Guidelines Manual* [NICE, 2009e].

Study identification *Including author, title, reference, year of publication*			
Guideline topic:			**Question no:**
Checklist completed by:			
Section 1: Applicability (relevance to specific guideline review question(s) and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear /NA**	**Comments**
1.1	Is the study population appropriate for the guideline?		
1.2	Are the interventions appropriate for the guideline?		
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?		
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?		
1.5	Are all direct health effects on individuals included?		
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?		
1.7	Is the value of health effects expressed in terms of quality-adjusted life years (QALYs)?		
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?		
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?		
1.10	Overall judgement: Directly applicable/Partially applicable/Not applicable There is no need to use section 2 of the checklist if the		

	study is considered 'not applicable'.		
Other comments:			

Section 2: Study limitations (the level of methodological quality) This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly /No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?		
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?		
2.3	Are all important and relevant health outcomes included?		
2.4	Are the estimates of baseline health outcomes from the best available source?		
2.5	Are the estimates of relative treatment effects from the best available source?		
2.6	Are all important and relevant costs included?		
2.7	Are the estimates of resource use from the best available source?		
2.8	Are the unit costs of resources from the best available source?		
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?		
2.10	Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		
2.11	Is there no potential conflict of interest?		
2.12	Overall assessment: Minor limitations/Potentially serious limitations/Very serious limitations		
Other comments:			

APPENDIX 13: RESEARCH RECOMMENDATIONS

The Guideline Development Group has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future.

1.1 GUIDED SELF-INSTRUCTION FOR ANXIETY AND DEPRESSION IN AUTISM

What is the clinical and cost effectiveness of facilitated self-help for the treatment of mild anxiety and depressive disorders in adults with autism?

Why is this important?

Anxiety and depressive disorders are commonly coexisting disorders in people with autism and are associated with poorer health outcomes and quality of life. This may occur because of the direct impact of the anxiety or depression but also because of a negative interaction with the core symptoms of autism. There is limited access and poor uptake of such interventions by people with autism in significant part due to limited availability, but also because current systems for the delivery of facilitated self-help are not adapted for use by people with autism. In adults without autism facilitated self-help is an effective intervention for mild to moderate depression and anxiety. The development of novel methods for the delivery of facilitated self-help could make effective interventions available to a wider group of people than is currently the case.

The suggested programme of research would need to: (a) develop current methods for the delivery of self-help measures to take into account the impact of the autism and possibly include developments in the nature of the materials, the methods for their delivery and the nature, duration and extent of their facilitation; (b) test the feasibility of the novel methods in a series of pilot studies; and (c) formally evaluate the outcome (including symptoms, satisfaction and quality of life) in a large-scale randomised trial.

1.2 THE STRUCTURE AND ORGANISATION OF SPECIALIST TEAMS

What structures and organisation for specialist autism teams are associated with improvements in care for people with autism?

Why this is important

The Department of Health's autism strategy (2010)[2] proposes the introduction of a range of specialist services for people with autism; these will usually be built around

[2] Department of Health (2010) Fulfilling and Rewarding Lives: the Strategy for Adults with Autism. Available at:

specialist autism teams. However, there is little evidence to guide the establishment and development of these teams including uncertainty about the precise nature of the population to be served (all people with autism or only those who are 'high functioning'), the composition of the team, the extent of the team's role (for example, diagnosis and assessment only, a primarily advisory role or a substantial care coordination role), the interventions provided by the team and the team's role and relationship with regard to non-statutory care providers. Therefore it is likely that in the near future a number of different models will be developed, which are likely to have varying degrees of success in meeting the needs of people with autism. Given the significant expansion of services, this presents an opportunity for a large-scale observational study, which should provide important information on the characteristics of teams associated with positive outcomes for people with autism in terms of access to services, effective coordination of care and outcomes for service users and their families.

1.3 AUGMENTED COMMUNICATION DEVICES FOR ADULTS WITH AUTISM

What is the clinical and cost effectiveness of augmented communication devices for adults with autism?

Why is this important?

Many people with autism experience very significant communication problems (for example, the absence of any spoken language, significant deficits in interpersonal skills), which have a profound effect on their ability to lead a full and rewarding life. It is probable that these problems are related to the core symptoms of autism and are likely to persist for most people given the life-long course of autism and the lack of effective interventions for these core symptoms. A number of communication devices have been developed for autism but few if any have been subjected to a proper evaluation in adults. Despite this lack of formal evaluation, individual services have made considerable investments in augmented communication devices. Research that provides high-quality evidence on the acceptability and the clinical and cost effectiveness of augmented communication devices could bring about significant improvements in the lives of adults with autism.

The suggested programme of research would need to identify current devices for which there is: (a) some evidence of benefit (for example, case series and small scale pilot studies); (b) some evidence that it meets a key communication need for people with autism (based on reviews of people's need in this area); and (c) indication that the device is feasible for routine use. The identified device(s) should then be formally evaluated in a large-scale randomised trial.

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