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Attention deficit hyperactivity disorder (ADHD) in adults: Good practice guidelines

Royal College of Psychiatrists in Scotland

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COLLEGE REPORT

Contents

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Members of the advisory group

Marie Boilson
Prem Shah
Ishbel McIver
Christine Sutherland
Dipayan Roy
Helen Alderson
Sheila Howitt
Raj Badial
Fionnbar Lenihan

In acknowledgement of:

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In memoriam of:

Our colleague Johannes Leuvennink

1. Scope of the guideline

This document was written by the Royal College of Psychiatrists in Scotland, Special Interest Group in Adult ADHD, co-chaired by Marie Boilson and Prem Shah. We are grateful for the contribution of the members of the National Autism Implementation Team (NAIT) to the content review by Geraldine Maynors, who was chair of the Scottish ADHD Coalition at the time, and comments from the Royal College of Psychiatrists' Special Interest Group in Neurodevelopmental Disorders. The group acknowledges the value that further multidisciplinary contributions to this area of developing practice would provide and hopes to advance this.

ADHD is a relatively new area for adult psychiatrists, though the ability to take a developmental history is one of the core competencies within the Specialist Training in General Psychiatry Curriculum (2010, last revision May 2017). The Royal College of Psychiatrists in Scotland, Working Group for Adult ADHD was formed in response to this emerging need. The desire for further training for general psychiatry faculty members has been identified.

The working group responded to this request by providing training workshops and the first version of this guidance document in 2017.

This update of the guideline is written for general psychiatrists working in Scotland. It aims to provide a summary of the current evidence-based practice to assist clinicians in assessing, diagnosing and treating adult ADHD. In addition, there is consideration given to the commitments of the Mental Health Strategy for Scotland 2017–27 and how service delivery could assist with meeting these commitments.

2. Executive summary

ADHD in adults continues to be underdiagnosed in Scotland; though rates of identification are increasing, there remains a large unmet need.

There are high rates of comorbidity with other mental health conditions and ADHD, in addition to comorbidity with other neurodevelopmental disorders. There is also symptom overlap within neurodevelopmental disorders. Therefore, assessment of ADHD needs to be part of a generic mental health assessment and with reference to other neurodevelopmental disorders to prevent misdiagnosis.

Clinicians carrying out assessments need to have relevant training in the presentation of mental health conditions (including neurodevelopmental disorders) and this training needs to be continuously maintained.

Community Adult Mental Health Services (AMHs) in Scotland are mainly delivered by community mental health teams (CMHTs) in secondary care and varying, developing models of primary mental health care teams, alongside provisions within the third sector. Psychology services may be managed separately. In 2014 the Health and Social Care Partnerships (HSCPs) formed to integrate services provided by health boards and councils in Scotland.

Neurodevelopmental disorders in adults without intellectual disorders (ID) are mainly managed within AMHs, psychology and the third sector, and in partnership.

The Scottish Strategy for Autism, launched in 2011, supported and funded a wide range of activities and developments at a local and national level which were designed to bring about improvements in services and support for autistic people and their families/carers. A review of this after ten years concluded that, to have a greater impact, services and supports need to have greater reach, become embedded and be sustained. Adult, non-ID pathways for assessment and diagnosis of autism spectrum disorder (ASD) are variable across Scotland and limited to single practitioners in some areas. Some larger health boards have specialist assessment teams.

Currently, adult ADHD is mainly managed within CMHTs and by psychiatrists, though some areas have developed specialist nurse posts and there is widespread agreement of the need for other disciplines' involvement in this area.

One of the commitments of the Mental Health Strategy for Scotland (2017–27) is to have accessible, connected services.

In 2020, the National Autism Implementation Team (NAIT) were tasked to work with the Royal College Working Group and lived experience voices to develop and scope the feasibility of an adult ADHD pathway for Scotland. The findings of the study were recently published: it concluded that a neurodevelopmental approach

within adult services should be taken and that current service configuration and resources were not meeting the needs of the patient group.

Future models of service delivery that are stepped, matched, multidisciplinary, delivered in partnership and co-constructed with lived experience voices need to be considered (NAIT, 2021).

3. Aims and structure

The aims of this publication are to:

- provide practical, evidence-based clinical guidance on assessing, diagnosing and treating adults with attention-deficit hyperactivity disorder (ADHD) in adult mental healthcare settings

- open a discussion on how mental health services can be structured across Scotland to meet the needs of adults with ADHD.

This guidance draws on evidence summarised in established documents, including the National Institute for Health and Care Excellence (NICE) Clinical Guideline NG87 (NICE, 2018), the British Association of Psychopharmacology's guidelines (Bolea-Alamañac et al, 2014) and the European Consensus Statement (Kooij et al, 2010).

This is a compact reference guide for those working with this patient group. It is not a substitute for the more extensive guidelines referred to above or for formal clinical training.

Where there is insufficient trial-based evidence, our guidance draws from the clinical experience of the psychiatrists of the Royal College of Psychiatrists in Scotland Adult ADHD Working Group.

The guidance in this document has been developed primarily for those working in the Scottish mental health system. However, the evidence, principles and approaches it sets out may also be relevant for other jurisdictions of the UK.

The working group is comprised of psychiatrists who are members of the Scottish Faculty of the Royal College of Psychiatrists. The group has been in existence for approximately seven years, supporting development of clinical expertise for its members in response to emergent needs in the adult population, reported training needs and an evolving evidence base. Links were established with the Scottish ADHD Coalition during this period and it is hoped that these can be consolidated further. The further invaluable contributions of other disciplines and care providers involved in the provision of mental health services (in setting standards, delivering treatment and care, and structuring services) is welcomed and links with relevant groups will be sought going forward.

4. Background

- The evidence base for treatment of adult ADHD is evolving.
- There is strong evidence that ADHD-related impairments persist into adulthood.

Two thirds of children diagnosed with ADHD continue to have the full syndrome or are in partial remission beyond the age of 18 (Faraone et al, 2006).

- NICE benchmarking suggests that 25 individuals per 100,000 population will transition into adult services every year.
- Between 2.5% and 4% of British adults may benefit from treatment (Faraone & Biederman, 2005).
- ADHD is a highly heritable condition (Faraone et al, 2000).

Despite this evidence, levels of adult diagnosis and treatment in Scotland are well below those expected and there are significant variations between health board areas. In 2013–14, 1,800 individuals aged 20–64 were prescribed medications for ADHD, representing 0.06% of the age group. This rose to 3,272 individuals (0.1%) in 2016–17 (ISD Scotland, 2018). These numbers fall significantly short of the anticipated 2.5–4% (ISD Scotland, 2018).

The worldwide prevalence of ADHD in children is estimated at 5%, with 1.5% of children meeting criteria for the more severe form known as hyperkinetic syndrome (Polanczyk et al, 2007). This equates to 37,000 (5%) and 11,000 (1.5%) children in Scotland respectively. There were an estimated 4,539 children and young people with a diagnosis of ADHD in contact with specialist services in Scotland in 2008 (NHS Quality Improvement Scotland, 2008). When this was reviewed in 2012, an additional 750 children were in contact with services, representing an increase of 0.1%. In those younger than 20 years of age, 0.6% in 2013–14 received ADHD medication and in 2016–17 this rose to 0.8% of the under-20 population (ISD Scotland, 2018). This suggests that ADHD continues to be underestimated in the Scottish school-age population but detection rates are improving.

Healthcare Improvement Scotland (2012) found a dearth of services for adults with ADHD in contrast to the expanding situation in England and Wales. This continues to be the case, even though one health board has developed a team to support training, another health board has developed a specialist psychiatry clinic and there has been some development of nurse specialist posts in other areas. Still, provision continues to be patchy with long waiting times.

There is strong evidence that adults with ADHD respond to pharmacological treatments (Bolea et al, 2012). Medication is recommended when ADHD symptoms are still causing significant impairment in at least one domain of everyday life despite environmental modifications (NICE, 2018).

Not detecting or treating ADHD has widespread ramifications for society in terms of family life, education, employment, healthcare and crime. The economic costs should not be underestimated (Kessler et al, 2006).

The Royal College of Psychiatrists requires all psychiatrists to be competent in neurodevelopmental assessment (Royal College of Psychiatrists, 2013). However, a survey by the Royal College of Psychiatrists in Scotland revealed an unmet need for training in the assessment of neurodevelopmental disorders (NDDs) in adults, including ADHD. Of respondents, 32% of psychiatrists were not confident in assessing ADHD and other NDDs, and 67% wanted to have further training.

The importance of goodness of fit of an individual to their environment is particularly significant and environmental modifications should precede pharmacotherapy (NICE, 2018).

As with other mental health conditions, diagnoses assessment and management of ADHD in the NHS context needs to involve the whole multidisciplinary team. There is a specific role for occupational therapy given the importance of environmental modifications in treatment.

Recruitment in psychiatry is widely recognised to be a global problem (Brown & Ryland, 2019). This further lends to the argument for the need to develop nurse specialist prescriber posts to support access to treatment. This practice is established in a number of children's services for the patient group, with evidence of good outcomes (Kleve et al, 2022)).

Health boards must provide the necessary training opportunities to all relevant clinicians, so they are able to develop their skills to the appropriate level of competence. All psychiatrists have a fundamental responsibility to ensure they have an appropriate level of competence in assessing and managing NDDs.

Not all medications for ADHD in adults are licensed for treatment in this group. The established expertise in managing young people with ADHD and the substantial evidence base for the use of these agents in adults justifies prescribing on an off-label basis.

Service delivery needs to be planned to optimise the use of resources. There is scope to learn from models employed by child and adolescent mental health services (CAMHS) and paediatric services. Investment will be required and all health boards will need to ensure they have the appropriate level of expertise available, delivering at the intensity required with robust governance structures in place working across disciplines and in partnership.

We also recommend establishing a managed clinical network that develops and shares clinical experience, providing expertise that may not be available locally.

5. ADHD as a diagnosis in adults

ADHD is one of a number of NDDs. ADHD and other NDDs frequently overlap; there is significant comorbidity with autism spectrum disorder (ASD), for example (Simonoff et al, 2008; Joshi et al, 2017).

An individual's general activity levels and their ability to pay attention, control impulses and regulate mood are genetically weighted traits which are present from childhood. These traits are distributed as a spectrum in the population. They can be modified by the environment and their expression can also change with age.

ADHD generally represents individuals who are at the extreme end of a spectrum in terms of degree of inattention, impulsivity and hyperactivity. Not all who are at these extremes have functional impairments or problems and in certain circumstances these traits can be advantageous to individuals. However, those with ADHD are at substantially higher risk of developing secondary problems, particularly other psychiatric illnesses, substance misuse and forensic, occupational, interpersonal and social problems (Anker et al, 2018).

Demonstrating the presence of symptoms in two or more settings with associated interference in the quality of an individual's functioning is paramount in defining ADHD that may merit intervention; indeed, this forms part of the necessary diagnostic criteria (American Psychiatric Association, 2013).

Adults have to actively choose to manage their ADHD. Some may validly choose not to modify their ADHD in spite of apparent negative outcomes. The individual remains responsible for their behaviour irrespective of treatment, unless there are comorbid conditions impacting on capacity, such as significant learning disabilities.

There are parallels between ADHD and personality disorders – both are trait-based, dimensional and represent individuals at one end of a spectrum. ADHD assessment can be similar to assessing for personality disorder – both require a longitudinal approach with corroborative evidence for diagnosis, symptoms are quantitatively different rather than qualitatively so when compared to the non-clinical population and both require a collaborative approach to longer-term management.

Table 1 – Diagnostic requirements ICD-11 ADHD (6AO5)
Essential (required) features
A persistent pattern (e.g. at least six months) of inattention symptoms and/or a combination of hyperactivity and impulsivity symptoms that is outside the limits of normal variation expected for age and level of intellectual development. Systems vary according to chronological age and disorder severity.
Inattention
Several symptoms of inattention that are persistent and sufficiently severe that they have a direct negative impact on academic, occupational or social functioning. Symptoms are typically from the following clusters: • Difficulty sustaining attention to tasks that do not provide a high level of stimulation or reward or require sustained mental effort; lacking attention to detail; making careless mistakes in school or work assignments; not completing tasks. • Easily distracted by extraneous stimuli or thoughts not related to the task at hand; often does not seem to listen when spoken to directly; frequently appears to be daydreaming or to have mind elsewhere. • Loses things; is forgetful in daily activities; has difficulty remembering to complete upcoming daily tasks or activities; difficulty planning, managing and organising schoolwork, tasks and other activities. **Note**: inattention may not be evident when the individual is engaged in activities that provide intense stimulation and frequent rewards.
Hyperactivity impulsivity
Several symptoms of hyperactivity/impulsivity are persistent and sufficiently severe that they have a direct negative impact on academic, occupational or social functioning. These tend to be most evident in structured situations that require behavioural self-control. Symptoms are typically from the following clusters: • Excessive motor activity; leaves seat when expected to sit still; often runs about; has difficulty sitting still without fidgeting (younger children); feelings of physical restlessness; a sense of discomfort with being quiet or sitting still (adolescents and adults). • Difficulty engaging in activities quietly; talks too much. • Blurts out answers in school, comments at work; difficulty waiting for their turn in conversation, games or activities; interrupts or intrudes in others' conversations or games. • A tendency to act in response to immediate stimuli without deliberation or consideration of risks and consequences (e.g. engaging in behaviours with potential for physical injury; impulsive decisions; reckless driving). • Evidence of significant inattention and/or hyperactivity-impulsivity symptoms prior to age 12, though some individuals may first come to clinical attention later in adolescence or as adults, often when demands exceed the individual's capacity to compensate for limitations. • Manifestations of inattention and/or hyperactivity-impulsivity must be evident across multiple situations or settings (e.g. home, school, work, with friends or relatives) but are likely to vary according to the structure and demands of the setting. • Symptoms are not better accounted for by another mental disorders (e.g. an anxiety or fear-related disorder; a neurocognitive disorder such as delirium). • Symptoms are not due to the effects of a substance (e.g. cocaine) or medication (e.g. bronchodilators, thyroid replacement medication) on the central nervous system, including any withdrawal effects, and are not due to a disease of the nervous system.
Specifiers to describe predominant characteristics of clinical presentation The characteristics of the current clinical presentation should be described using one of the following specifiers which are meant to assist in recording the main reason for the current referral or services. Predominance of symptoms refers to the presence of several symptoms of either an inattentive or hyperactive/impulsive nature with few or no symptoms of the other type.
6AO5.0 ADHD, predominantly inattentive presentation All diagnostic requirements for ADHD are met and inattentive symptoms predominate.
6A05.2 ADHD combined presentation All diagnostic requirements for ADHD are met and both hyperactive-impulsive and inattentive symptoms are clinically significant aspects of the current clinical presentation, with neither clearly predominating.

6A05.Y ADHD, other specified presentation
6A05.Z ADHD, presentation unspecified

Table 2 – Diagnostic requirements ICD-11 ADHD (6A05)

Additional clinical features

- ADHD usually manifests in early or middle childhood. In many cases hyperactivity symptoms predominate in preschool and decrease with age, such that they are no longer prominent beyond adolescence or may instead be reported as feelings of physical restlessness. Attentional problems may be more commonly observed beginning in later childhood, especially in school and in adults in occupational settings.
- The manifestations and severity of ADHD often vary according to the characteristics and demands of the environment. Symptoms and behaviours should be evaluated across multiple types of environments as part of clinical assessment.
- Where available, teacher and parent reports should be obtained to establish the diagnosis in children and adolescents. In adults, the report of a significant other, family member or co-worker can provide important additional information.
- Some individuals with ADHD may first present for services in adulthood. When making the diagnosis of ADHD in adults, a history of inattention, hyperactivity or impulsivity before age 12 is an important corroborating feature that can be best established from school or local records, or from informants who knew the individual during childhood. In the absence of such corroborating information, a diagnosis of ADHD in older adolescents and adults should be made with caution.
- In a subset of individuals with ADHD, especially in children, an exclusively inattentive presentation may occur. There is no hyperactivity and the presentation is characterised by daydreaming, mind-wandering and a lack of focus. These children are sometimes referred to as exhibiting a restrictive inattentive pattern of symptoms or sluggish cognitive tempo.
- In a subset of individuals with ADHD, combined presentation, severe inattentiveness and hyperactivity-impulsivity are both consistently present in most of the situations that an individual encounters and are also evidenced by the clinician's own observations. This pattern is often referred to as hyperkinetic disorder and is considered a more severe form of the disorder.
- ADHD symptoms often significantly limit academic achievement. Adults with ADHD often find it difficult to hold down a demanding job and may be disproportionately underemployed or unemployed. ADHD can also strain interpersonal relationships across the life span, including those with family members, peers and romantic partners. Individuals with ADHD often have greater difficulty regulating their behaviour in the context of groups than in one-on-one situations.
- ADHD often co-occurs with other neurodevelopmental disorders including developmental speech or language disorders, and primary tics or tic disorders, which are classified in ICD11 under Neurodevelopmental Disorders (6A00-6A0Z).

6. General principles in assessing and managing adults with ADHD

The general approach to assessing and managing ADHD is similar to that for any other mental disorder.

A good-quality assessment takes time and is ideally multidisciplinary, involving information gathered from a variety of sources, such as third parties, previous school records and previous health assessments. Longitudinal assessment is also advised.

Management of ADHD is proactively planned in collaboration with the patient. From the start, the clinician should explicitly use an approach aimed at developing the patient's own ability to self-manage over a lifelong period. Management involves a combination of pharmacological, psychological, educational and skills-based interventions, and also requires an understanding of helpful adaptations to naturally occurring environments of the home, work and community/leisure settings.

The clinician's role is to advise on what interventions are likely to be beneficial. One of the responsibilities that this can involve is balancing the risks and benefits of prescribing medications. This is of particular importance given the frequent nature of off-label prescribing. Prescribing should be safe. In some circumstances risks, such as the risk of diversion and risks associated with poor social support, may outweigh the potential benefits.

It is important to establish a threshold for interference with, or reduction in, the quality of an individual's functioning. This is a diagnostic requirement. Cut-off points for trait-based disorders can be difficult to define (being quantitatively rather that qualitatively different) and are to an extent cultural (see Section 7 for further guidance).

7. Pre-referral recommendations

We recommend that a threshold is set for referral to specialist services, as ADHD is a spectrum disorder and ADHD traits are ubiquitous. There needs to be evidence of a specific cluster of symptoms present in two or more settings and evidence of these symptoms interfering with, or reducing the quality of, an individual's functioning prior to a referral being initiated.

In the body of the referral, information should be provided on symptoms of ADHD, early developmental history and evidence of impairment. This helps to ensure that only those at the more severe end are referred to specialist mental health services (Box 1). We recommend that local services provide validated screening tools to referrers which enable evidencing of impairment in those referred for an ADHD assessment. These can be either completed during the consultation with the referrer or filled in subsequently by the patient and submitted with the referral to the service. Symptom screeners such as the Adult ADHD self-report tool (ASRS) are also available, though clinical experience of the group has found them to be undiscriminating for triage purposes.

Box 1: Information that supports an ADHD referral

Essential

- Information on early developmental history
- Symptoms present in two or more settings
- Details of symptoms interfering with or reducing the quality of functioning
- Details of medical history and current physical examination

Desired

- WHO Disability Assessment Schedule 2.0 (WHODAS) (WHO, 2018) or Weiss Functional Impairment Rating Scale (W-FIRS) (Weiss et al, 2007)
- 10-item Autism Spectrum Quotient (AQ-10) (Allison et al, 2012)
- Developmental questionnaire (see Appendix 2)

We recommend that local services encourage referrers to screen for other NDDs, particularly ASD, because of high rates of comorbidity.

As medication is first-line treatment, when environmental modification has proven unsuccessful, a relevant medical history is required of the referrer – particularly in terms of cardiovascular, neurological and hepatic disorders – including a record of the patient's

most recent blood pressure and pulse.

Patients may have had relevant assessments carried out by other health professionals (e.g. educational psychologists). We recommend that these should be made available when the referral is made.

Clinicians should be mindful that there might be external pressures or agencies driving a request for referral. The motivation may not have arisen from the patient themselves. This may have a significant negative impact on engagement and on planning efficacious treatment at the cost of clinical time.

8. Referrals to mental health services

8.1. Role of mental health practitioner

The role of the mental health practitioner is to ensure:

- A satisfactory evaluation for ADHD is conducted and criteria are met, and that the clinician has the appropriate competencies to conduct this (which should include knowledge and skills in assessing and diagnosing ASD, given the overlap in symptoms) and maintain ongoing professional development in the area.

- Other psychiatric conditions with particular focus on other neurodevelopmental disorders and other important contributory factors are identified and treated and the clinician has competencies to identify these or has access to clinical support to assist with this. Time to complete a comprehensive assessment and to access mental health, primary care and educational records needs to be factored in.

- There is appropriate liaison with other agencies and disciplines.

- Where other agencies are involved in the delivery of treatment plans, there are appropriate agreements and governance arrangements in place.

- A management plan is agreed with the patient; ADHD may not necessarily be the first priority for treatment.

- Appropriate non-pharmacological treatments for ADHD are offered, in particular an environmental assessment prior to considering medication options.

- A risk-benefit analysis for ADHD medication is conducted which includes a physical health examination (see Box 2).

- Medication is titrated to a therapeutic dose while clinical response and any side effects are monitored.

Box 2 Physical health checklist

- Blood pressure
- Pulse rate
- Weight/height
- History of cardiovascular disease
- History of tics or epilepsy
- Family history of cardiovascular disease before age 55 and/or sudden death of first degree relative before age 40 suggesting cardiac disease
- History of liver disease or history of glaucoma

Diagnostic reliability depends on a longitudinal assessment of the patient, together with third-party information. Assessment should be carried out on a multidisciplinary basis and may take more than one appointment. There are freely available tools that can be used by mental health professionals to guide the assessment of ADHD by structuring the clinical interview (see Assessment, Section 9).

There are four common scenarios in which clinicians may encounter adult patients with ADHD and each group raises specific issues.

8.2. Transition patients

Prescribing for ADHD in children and adolescents in Scotland remains below UK and European averages (0.8% of those under 20 years in 2017 were prescribed medications for ADHD) but are rising towards the expected level (ISD Scotland, 2018).

Many young adults benefit from continuing treatment beyond the age of 18 (10% still meet criteria for the full syndrome, with up to 66% in partial remission) (Faraone et al, 2006) and are therefore referred to adult services for specialist supervision.

As ADHD is a neurodevelopmental disorder, with the progression of time and parallel maturation the core features of the disorder may present differently, requiring a nuanced interpretation of symptom expression.

Protocols for transition may vary between areas and suggested standards have been developed by the Royal College of Psychiatrists in Scotland Adult ADHD Working Group (Appendix 1).

Drug treatment for ADHD in adults may be off-label. The daily management of medication is often passed from the parent/carer to the young adult at this stage.

Many young adults will initially attend with a parent who may have expectations of services based on their experiences of CAMHS. Young adults are frequently highly ambivalent about continuing ADHD treatment and it is not unusual for young adults to stop treatment (McCarthy et al, 2009). For this reason, it is important that part of the interview takes place with the young person on their own, to allow for an expression of views that may differ from those of the parents.

With this patient group, the basic roles of adult services are to:

- evaluate whether medication is still required (e.g. test out the effects of 'drug holidays') by ascertaining ongoing symptoms, bearing in mind natural development and the presence of impairment. It is important in the assessment of risk and planning of treatment to consider that, at this time in a young person's life, important support networks could be in transition or removed altogether. Environment is likely to need reassessment with consideration given to supports
- monitor side effects and/or adverse effects
- identify and manage any psychiatric comorbidity
- identify and provide appropriate non-pharmacological treatments.

8.3. Patients previously diagnosed in childhood and re-referred for treatment

About 50% of children with ADHD do not require transition to adult services. Additionally, a further proportion may drop out of follow-up and treatment at transition. These adults may later be re-referred, looking to reinitiate ADHD treatment, particularly during transitional periods in life or when experiencing major stressors that may augment the impairment associated with ADHD symptoms (Young et al, 2011a).

Historically, such adults were often not referred because of lack of recognition of need and lack of service provision. It follows that referrals from this group will increase as awareness increases.

CAMHS and paediatric services will have access to pertinent past information. Having this available would greatly reduce the time required to plan the future management of these individuals. Clinicians may need to request this information if it is not provided at the time of referral, which may delay an initial assessment.

As with any other medication, clinicians will need to conduct a risk–benefit analysis and discuss this with the patient before recommending pharmacological treatment, considering the specific risks associated with stimulant use.

An assessment for new comorbid physical and mental health conditions since last contact should also inform care at this stage.

8.4. Adult patients referred for assessment of potential ADHD

There is increased awareness in society of ADHD as a condition, which can be a trigger for referral requests. This is of particular relevance given the historical under-recognition of ADHD (Royal College of Psychiatrists in Scotland and Addressing the Balance, 2012).

Parents (and sometimes grandparents) of children with ADHD may seek assessment as they recognise their child's traits within themselves or they may be alerted by their child's clinician. This is unsurprising as ADHD is highly heritable (Larsson, Chang, D'Onofrio et al, 2014).

8.5. Individuals already engaged with mental health services

There is evidence that many adults with undetected ADHD exist on the caseloads of community mental health teams (CMHTs). All members of the multidisciplinary team should have an awareness of the core features of ADHD and the potential for a missed primary or comorbid diagnosis (Deberdt et al, 2015). (see Section 10 Comorbidity)

8.6. Pertinent to all categories

Patients diagnosed in other countries or in non-NHS settings should be encouraged to provide previous medical reports confirming diagnosis and treatment before the initial appointment. Without sufficient supporting evidence of a comprehensive diagnostic assessment, a standard assessment for ADHD will need to be carried out. General practitioners (GPs) referring those who have been diagnosed in other countries or in non-NHS settings should inform their patients that they will need to provide relevant medical reports in advance to facilitate assessment and treatment, in addition to the need for assessments provided to meet the standard required within the NHS.

For other considerations in this area the Chief Medical Officer (CMO) and Public Health Directorate have develop guidance to assist with maintenance of the founding principles of the NHS and ensuring that patient safety, clinical accountability, governance and probity arrangements are robust (SGHD/CMO(2009)3).

9. Assessment

It may be possible to gather information to support the assessment prior to the consultation, to reduce face-to-face time. However, it is important to stress that the assessment does not need to be rushed. By definition, adults with ADHD are likely to have experienced these difficulties for many years.

For some without clear evidence of the disorder, the process will end after the first appointment or may proceed to consider a different diagnosis.

For others, evidence for the diagnosis of ADHD may be compelling by the end of the first appointment. If enough background and collateral history (including a full developmental history) has been obtained in advance, an experienced clinician may be comfortable making a diagnosis at this point. Case consultation models using the wider multidisciplinary team can be employed to facilitate this. Where diagnosis is unclear, diagnostic instruments can be helpful and will require a second appointment. Some complex cases may require broader consideration with additional multidisciplinary assessments.

Comorbid mental health conditions are the norm which can add to diagnostic uncertainties.

9.1. Initial mental health assessment

The initial assessment should proceed as it would for any other referral – with the clinician taking a standard mental health history and mental state examination (MSE), with additional specific reference to DSM-5 criteria or ICD-11 for ADHD.

In the course of this process, consideration will be given to the possibility of alternative diagnoses which might better explain the patient's difficulties (such as an alternative NDD diagnosis) or which might signify comorbid conditions. We would caution against the first appointment comprising solely of semi-structured interviews as this can be leading and result in false positives, with missed opportunities to identify other, more appropriate diagnoses.

9.2. Important points

- Special attention should be paid to the developmental history (this should ideally be provided/corroborated by an informant who knew the patient as an infant/child). See Appendix 2 for details.

- It is crucially important to establish age at the onset of symptoms/behaviours (for diagnosis of ADHD in adults these must have been present before 12 years of age).

- Scaffolding provided by parents and schools can compensate for deficits, masking ADHD symptoms in childhood and contributing to the lack of a pre-existing diagnosis. Careful history taking can elicit this.

- Diagnosis in adults requires the presence of five symptoms from the DSM 5 criteria, rather than the six required for children, in either or both categories of inattention and hyperactivity/impulsivity.

- ICD-11 now includes ADHD as a diagnosis, adopts the subtypes found in DSM, predominantly inattentive, predominantly hyperactive-impulsive, combined presentation and, adding a further two, other specified presentation, presentation unspecified. Age of onset is qualified as "typically early- to mid-childhood, before the age of 12".

- Clinical judgement is paramount in diagnosis.

- As evidence suggests that ADHD is a highly heritable condition, with overlap with other NDDs, the clinician should always enquire about any family history of ADHD and other NDDs (e.g. ASD, Tourette's syndrome, dyslexia, dyspraxia).

- The clinician should also screen the patient for features of other NDDs.

- In a novel setting (e.g. outpatient clinic), patients may not overtly display the core symptoms of ADHD. Salient encounters (such as a clinical interview) can enhance focus, so the absence of observable symptoms at interview does not exclude ADHD as a diagnosis.

- The clinician should be aware of gender differences in presentation. ADHD in women can go undiagnosed due to a different symptom profile (Biederman et al, 2002). The lack of overt symptoms and less externalised behaviours can impair the recognition of ADHD in girls. The nature of comorbidity in females also differs from males in the fact that females can present with more psychological distress (Rucklidge et al, 2001) and display significant affective symptoms and sleep disorders (Robison et al, 2008). The intensity of the depressive features in girls with ADHD is generally higher than those without the disorder and carries the risk of an earlier onset of comorbidity and more impairment (Biederman et al, 2006). This often obscures or delays the diagnosis of ADHD. A history of disruptive behaviour and reporting of poor temper control, mood volatility and emotional over-reactivity (Robison et al, 2008) supports the likelihood of ADHD and should be clinically differentiated from borderline personality disorder. The other conditions that require careful evaluation are postnatal depression, post-traumatic stress disorder (PTSD) and eating disorders (Biederman et al, 2007), which all can coexist (Vingilis, 2015). Women with ADHD are prone to life adversities and risky sexual behaviours (Fuller-Thomson et al, 2016). The interplay of hormonal profiles can alter presenting behaviours (Quinn et al, 2014).

9.3. Additional symptoms common in adult ADHD

a Affective instability is a very common feature in adult ADHD (up to 90%) (Kooji et al, 2010). This can be similar to that observed in emotionally unstable personality disorder (EUPD) and can lead to clinical uncertainty.

b Ceaseless mental activity/racing thoughts/excessive mind wandering can replace the overt physical over-activity seen in childhood in adults presenting with this condition.

c Poor sleep with initial insomnia.

d Paradoxical response to illicit stimulant drugs.

9.4. Developmental history (see Appendix 2)

A comprehensive developmental history is critical. There is evidence to suggest that contact with the following health professionals in infancy and childhood (up to five years of age) may indicate increased vulnerability to NDDs (Gillberg, 2010).

a Speech and language therapists – because of delayed communication or difficulties with social skills.

b Occupational therapists – because of issues with motor skills, e.g. delays, tics, repetitive movements, stereotypies, coordination difficulties.

c Health visitors – because of general developmental concerns.

d Community or hospital-based paediatrics – because of problems with learning and development, toilet training, attention, activity, behaviour, mood and sleep regulation.

9.5. Corroborative history

Because of the diagnostic importance of assessing childhood behaviour and establishing the onset of difficulties before the age of 12 years, obtaining a corroborative history is particularly important in the diagnosis of ADHD in adults. This should be emphasised to the patient and their family.

This will allow consolidation of the developmental history and should be obtained from someone familiar with the patient in childhood (see Box 3 for tools to assist with this).

Where this is not possible, other evidence of childhood behaviour, e.g. school reports and other records, may be sought. Consent must be obtained to approach relatives or other informants directly.

(Note that some individuals with poor organisational skills may have difficulty facilitating this.)

In certain circumstances, CAMHS and/or paediatric case notes, social work records and current college reports and/or work appraisals can additionally inform the assessment.

Collateral information on the current functioning of the individual is invaluable and may be provided by a partner and/or friends in addition to family.

Ideally, the opportunity should be sought to speak directly with informants; this information can also be completed in advance of the appointment, using structured questionnaires.

Whilst obtaining corroborative history is regarded as essential, an inability to do so due to circumstances outside the patient's control should not necessarily exclude a diagnosis and treatment, if these are otherwise indicated.

9.6. Instruments to aid the diagnostic process

There has been some debate about the use of diagnostic instruments in the assessment of patients with ADHD. These can be extremely useful in supporting the diagnosis but should not be used as a substitute for careful history taking and clinical evaluation of symptoms and the degree of impairment/interference with functioning. Patients seeking a diagnosis of ADHD who have learned about the disorder may easily endorse most items, so clinical judgement is necessary. In addition, the core symptoms of ADHD are dimensional variations in ability to concentrate, manage impulse control and activity levels and are normally distributed across the population. Everyone can relate to these questions to different degrees and personal variations in perception of difficulties as a consequence can influence endorsement on self-rated questionnaires.

Tools may not address comorbidity or, in themselves, allow differentiation from other psychiatric disorders. They also do not explore the developmental history or the early or current environment, which are fundamental to our understanding and formulation of patients' problems. Diagnostic tools can be very useful, however, as an adjunct, to corroborate diagnosis, especially for clinicians who are developing experience in assessing for ADHD.

There are several validated assessment tools, some of which are available free to use by clinicians (Box 3).

The ACE+ is a semi-structured interview for use in adults, to aid in the assessment process (Young, 2016). It is free to download and use.

The Diagnostic Interview for ADHD in Adults (DIVA) questionnaire (Kooij & Francken, 2010) provides a similar function. This is a structured interview that is simple to administer and addresses current and childhood behaviours in addition to impairment, based on DSM criteria. The most up-to-date version (DSM-5 criteria) is 10 euros as a one-off payment for downloads, though the previous version (DSM-IV) is free. It is available in the public domain and, with practice, takes about an hour and a half to complete. Owing to the nature of the condition, completion of the DIVA in one session may not always be possible.

Although neuropsychological assessments – e.g. the Wechsler Adult Intelligence Scale (WAIS) (Wechsler, 2008) and Stroop test (Stroop, 1935) – are not routinely undertaken

in the majority of cases, they can be helpful where the diagnosis remains unclear.

Box 3: Screening and assessment tools

Retrospective:
- Wender Utah Rating Scale (free) (Ward et al, 1993)
- Childhood Symptoms Scale (one-off payment) (Barkley & Murphy, 2006; Barkley, 2007)
- Childhood Behaviour Scales – Self-report and Parent report (Appendix 4)

Current self-report:
- Conners' Adult ADHD Rating Scales (pay per use) (Conners et al, 1999)
- Current Symptoms Scale (one-off payment) (Barkley & Murphy, 2006; Barkley, 2007)
- Adult ADHD Self-Report Scale (free) (Kessler et al, 2005)
- ADHD Self-Report Scale (pay per use) (Rösler et al, 2006)
- Copeland Symptom Checklist for Attention Deficit Disorders (free) (Copeland, 1987)
- WHO Disability Assessment Schedule (WHODAS 2), WHO 2010 (free)
- Weiss Functional Impairment Rating Scale (CADDRA, 2014) (pay per use)
- Current Behavioural Scale – Self-report (Appendix 4)

Current observer report:
- Brown ADD Rating Scales (pay per use) (Brown, 1996)
- ADHD – Other Report Scale (pay per use) (Rösler et al, 2006)
- Current Behaviour Scale – Partner Report (Appendix 4)

Diagnostic instruments:
- ACE+ (free) (Young, 2016)
- Diagnostic Interview for ADHD in Adults (DIVA-5) (pay per use) (Kooij, Franklin et al, 2010)
- Conners' Adult ADHD Diagnostic Interview for DSM-IV (pay per use) (Epstein et al, 2001)

Impairment of functioning

The presence of significant impairment of functioning in two or more domains was a requirement for diagnosis in DSM-IV. DSM-5 alters this to state that symptoms should be evident in two or more settings and interfere with, or reduce the quality of functioning in, social, educational or occupational domains (American Psychiatric Association, 2013). This is also addressed in the ACE+ questionnaire. The Weiss Functional Impairment Rating Scale (WFIRS) and the WHO Disability Assessment Schedule (WHODAS) are additional tools that supports this assessment (CADDRA, 2014).

Evidence of interference in the quality of functioning is particularly relevant in terms of treatment threshold. This is clinically difficult to define but assessments of interference of functioning will need, by definition, to be person centred and covering domain areas of family, education, life skills, self-concept, social and risk behaviours, taking into account the impact of demands/supports in day-to-day naturally occurring environments.

It is also, however, important not to exclude from treatment people with ADHD on the basis of apparent achievement in specific areas. For example, students or professionals with ADHD may on the surface appear to be functioning highly in an academic or specific occupational setting but at significant cost in terms of the time/effort required to maintain performance. This is captured under the new criteria. They may also exhibit interference or reduced quality of functioning in other areas. In other cases, hidden impairments related to underlying ADHD can be dramatically unmasked when an individual moves from a familiar environment to one where there is less tolerance/ supporting frameworks of, and for, their ADHD symptoms.

9.7. Differential diagnosis

The clinical assessment for ADHD should take into account the presence of medical and psychiatric conditions which can simulate ADHD or the presence of comorbid disorders.

There is considerable symptomatic overlap between ADHD and other major psychiatric disorders, particularly bipolar disorder, emotionally unstable personality disorder and anxiety disorders (Kessler et al, 2006).

Careful exploration of the longitudinal history and time course of any symptoms, ideally with corroboration from a third party, is crucial in terms of differentiating between trait-based (ADHD, EUPD, ASD) and state-based disorders with more discrete onsets (depression, bipolar disorder, anxiety disorder) and different longitudinal presentations.

Beyond this it is important then to consider the presentation in the context of other diagnostic criteria for each disorder, bearing in mind that in some patients more than one condition may exist.

9.7.1. Affective instability symptoms

Emotional dysregulation is common to many mental health disorders. Up to 90% of adults with ADHD experience mood instability that may resemble mood disorders or emotionally unstable/borderline personality disorders (Asherson, 2005). In addition, some adults with ADHD present objectively with restlessness, excitement, loud and pressured speech, to a degree which can mimic mania. Careful exploration of the time course of this presentation, and any mood fluctuations, ideally with corroboration from a third party, is crucial to differentiating ADHD from bipolar disorder. Emotional reactivity is often present throughout childhood but in adolescence this 'hyperreactivity' can become more pronounced. These emotional experiences can often dominate the clinical presentation, particularly in females (Steer, 2021).

More commonly, the mood instability and affective dysregulation reported in ADHD resembles more closely that found in EUPD. Differential diagnosis is complicated in this case by the fact that both are lifelong, trait-based disorders. Again, however, careful exploration of symptoms and behaviours with reference to other core diagnostic criteria for each disorder is crucial.

Mood instability as part of ADHD may respond to treatment with medication for ADHD (Skirrow et al, 2009). It is worth considering a diagnosis of ADHD in those with lifelong difficulties with mood regulation who have significant functional impairment present atypically and are difficult to treat.

9.7.2. Complex post-traumatic stress disorder

Again, the affective dysregulation, anxiety and attachment issues associated with this disorder can resemble the mood fluctuations, psychomotor acceleration and relationship difficulties reported by individuals with ADHD. Differential diagnosis is complicated in

that adults with ADHD are more likely to have had adverse childhood experiences (ACEs). Maltreated children have been found to have a higher risk of having multiple NDDs, though the evidence is not consistent with maltreatment being causal, rather the presence of common genetic effects is thought to be contributory (Dinkler et al, 2017). The acknowledged heritability of the condition suggests that many adults with ADHD may have grown up in families where a parent or sibling also has the disorder which may in itself, in some cases, have had a negative effect on the early life environment. ADHD is also known to be associated with increased frequency of other adverse events in adulthood, including assaults, accidents, relationship conflict, offending behaviour and incarceration.

Other core diagnostic features of PTSD (such as flashbacks, nightmares, dissociative symptoms, etc) should be sought where this is suspected, whilst bearing in mind that this disorder may coexist with ADHD.

9.7.3. Anxiety disorders

The agitation, poor concentration and ceaseless mental activity characteristic of ADHD can also mimic anxiety disorders. In addition to establishing the timeline of symptoms being present, it can be helpful to elicit potential triggers, the presence of somatic features of anxiety/panic and the content and themes of racing thoughts.

9.7.4. Autism spectrum disorder

Both ASD and ADHD can involve delays in language, heightened sensory responses, defiant behaviour, problems with regulating emotions and difficulty with planning and with inhibiting behaviour (Rusting, 2018). They both can present with attentional and communication problems and loss of behavioural control. Establishing the reasons behind these presentations allows differentiation. Attentional problems are a core symptom of ADHD; autistic people may selectively focus on areas of interest to them and process and attend to social cues differently.

Social communication problems can make an autistic person appear blunt or rude, impulsivity in ADHD can result in a similar picture.

Problems with friendships are common to both.

Impulsivity as a core symptom of ADHD can present with dysregulated behaviour whilst an autistic person may become completely overwhelmed by sensory overload with a resultant loss of behavioural control.

The fact that ADHD and ASD can additionally co-occur complicates the clinical picture.

Differentiating features present in ASD include inability to make friends (as opposed to problems keeping friends seen in ADHD), having problems reading people and understanding humour, the presence of poor eye contact, impaired use of non-verbal communication, rigid adherence to non-functional routines (versus routines to assist

with managing forgetfulness seen in ADHD) and rituals and stereotyped repetitive motor mannerisms. A development history of speech delays or oddities in the social use of language would suggest ASD.

9.7.5. Tourette's syndrome

Tourette's syndrome can present similarly to the verbal impulsivity seen in adult ADHD.

9.7.6. Substance misuse

Intoxication with stimulants or withdrawal from other substances can also mimic the agitation and psychomotor acceleration as well as the cognitive (attentional) deficits commonly seen in ADHD but is typically transient.

9.7.7. Medical conditions

e.g. Hyperthyroidism, frontal lobe syndromes and sleep disorders – a systematic medical history should be taken as part of the routine assessment.

9.7.8. Abnormal sick role behaviour

Some individuals may seek a diagnosis to obtain benefits, absolve responsibility for destructive behaviours or for financial gain by selling medications. Others may seek diagnosis to satisfy a need for validation, bolster self-esteem or justify care and support from mental health services. Some may have prepared for the assessment by learning about the condition and are possibly also rehearsing answers to questions posed in standardised diagnostic questionnaires. This is not unique to ADHD and clinicians concerned about this should also bear in mind the evidence that ADHD remains drastically under diagnosed in this country.

Nevertheless, as with any other condition it is important that the clinician does not rely solely on diagnostic tools and questionnaires but takes the time to obtain a full mental health and developmental history, obtains corroboration and utilises their clinical skills to make an objective assessment of the patient.

9.7.9. Psychotic symptoms

Psychotic symptoms are not features of ADHD and represent a comorbid diagnosis.

Such symptoms should be fully evaluated. Stimulant medication may trigger the emergence of psychotic symptoms and a careful history of dose changes and/or initiation of treatment in association with the emergence of psychotic symptoms will help determine this.

9.8. Use of technology in carrying out an assessment

Virtual assessments using technologies such as NHS Near Me (powered by Attend Anywhere) are easily employed and in fact may make coordinating appointments to obtain collaborative histories easier.

It is the quality of the assessment that counts rather than the mode employed to obtain it.

10. Comorbidity

Adults with ADHD are significantly more likely than the general population to experience other psychiatric disorders (Kooji et al, 2010).

Mood and anxiety disorders, other NDDs and substance use disorders are potential comorbid conditions (Nutt et al, 2007). Overlapping symptoms between disorders can make assessment difficult. A longitudinal history is helpful to elicit trait- and state-based symptoms. Symptoms that are not part of an ADHD clinical picture can also be used as indicators to help with differentiation.

The treatment of ADHD can have a positive impact on management of other conditions. The presence of an additional diagnosis should not mean ADHD treatment does not get addressed. When there is comorbidity present the most severe disorder should take precedence when considering treatment priorities. Clinical judgement will inform this.

The presence of other comorbid disorders should not be a barrier to conducting an assessment for ADHD. Consideration needs to be given to the severity of the comorbid condition. For example, major mood disorders should be treated prior to assessing for ADHD. Conversely, mood instability, as opposed to major mood disorder, in the context of ADHD often responds to pharmacological interventions for ADHD, indicating that ADHD gets priority in this context (Kooij et al, 2010).

Table 3 – ADHD in adults and differentiating comorbid conditions

Disorder	Comorbid rate	Shared symptoms	Differentiating symptoms
Specific intellectual difficulty	33%	Problems with concentration, poorly organised work, forgetfulness, poor time management	Presence of academic skills deficits (dyscalculia, dyslexia)
Emotionally unstable personality disorder	13%	Problems with concentration, poorly organised work, forgetfulness, poor time management	Chronic feelings of emptiness Presence of identity disturbance Suicide threats or acts of self-harm Fear of abandonment Quasi-psychotic symptoms
Dissocial personality disorder (DSPD)	24%	Enduring pervasive pattern of behaviour that causes impairment in multiple domains Low tolerance to frustration Problems maintaining relationships Conduct disorder can coexist with ADHD and has been invariably present in DSPD History of hyperactivity in childhood in ADHD and DSPD	Callous unconcern for feelings of others Incapacity to experience guilt Persistent attitude of irresponsibility and disregard for social norms, rules and obligations

Anxiety disorder	Inconsistent findings, some studies report elevated rates up to 33%	Poor concentration Motor tension Inability to switch thoughts off Checking may be employed in ADHD as a means of managing forgetfulness/disorganisation	Autonomic overactivity Presence of somatic symptoms Persistent anxiety symptoms of an episodic nature (periods where symptoms are not present) Evidence of clear triggers to anxiety (presence of avoidance) Specific focus to thought content, e.g. fear of negative appraisal, contamination, threat Implications for treatment Treat clear anxiety disorder first Re-evaluate severity of ADHD once anxiety disorder treated Consider atomoxetine if stimulant treatment exacerbates anxiety symptoms
Moderate to severe depressive disorder	30%	Poor self-esteem Affective instability Irritability Poor concentration Sleep problems	Episodic history of pervasive low mood and/or anhedonia (different to usual mental state), presence of somatic syndrome Treatment implications: treat depression first
Dysthymia	23%	Poor concentration Problems making decisions Irritability Sleep problems Low self-esteem Feeling incapable	Chronically depressed mood present for minimum of two years Treatment implications: treat ADHD first
Bipolar affective disorder (BPAD)	20% Mania/ ADHD	Affective instability Hyperactivity/impulsivity Sleep problems Depression	BPAD has an episodic presentation with distinct periods of abnormal moods (hypomanic/ manic, depressed) with a return to baseline level of functioning in between episodes; psychotic symptoms may be present Implications for treatment: treat mood disorder first
Autism spectrum disorder (ASD)	No adult studies; now recognised that conditions frequently co-occur	Severe hyperactivity in childhood, social impairment, poor concentration. Developmental coordination disorder often coexists with either ADHD or ASD	Attentional problems centred around not listening and problems shifting focus (attentional problems in ADHD due to short attention span and excessive distractibility) Impairment of reciprocal social interactions All-absorbing narrow interest Imposition of routines and interest Non-verbal communication problems Speech and language problems (formal, pedantic, odd prosody, staccato speech)

Substance use disorders	25% earlier onset of substance misuse	Impulsivity Overactivity Poor concentration	Use of one or more psychoactive drugs causing damage to health with or without dependence syndrome Treatment implications: stabilise substance misuse first Make ADHD diagnosis when patient in recovery Consider drug interactions and risk of diversion. If risk of diversion, nonstimulant treatment should be used
Neurological disorders, tic disorder, epilepsy			Implications for treatment Tic disorder: if severe, use nonstimulant Epilepsy: optimise seizure control. Liaise with neurology. Some anticonvulsant medications have a negative impact on attention. Monitor for deterioration in seizure control with stimulant
Developmental coordination disorder	40% in children (75% persist into adulthood)	Problems with planning, working memory Restlessness Poor concentration	Presence of motor coordination difficulties, hypo/hypertonia

11. Specific patient groups

11.1. Substance misuse

Substance misuse, mostly involving alcohol and cannabis, may be twice as common among individuals with ADHD as in the general population and tends to begin earlier (Breyer et al, 2014). Individuals with untreated ADHD may also describe self-medicating with illicit substances. Some patients report paradoxical calming effects from stimulant drugs such as cocaine and amphetamines.

ADHD is a recognisable risk factor for early onset substance misuse and if not treated adequately there is an increased likelihood of relapse and development of a chronic pattern with comorbid psychiatric symptoms.

When prescribed stimulants are used appropriately, there is little evidence of patients becoming dependent, and indeed treating ADHD may reduce the lifetime risk of developing a substance use disorder (Biederman, 2003; Dalsgaard et al, 2014).

Controlled misuse should not completely preclude treatment, although careful monitoring will be required. In uncontrolled and chaotic patterns of drug and/or alcohol misuse, stimulant medications can be very difficult to manage safely and are not routinely recommended. Where there is a risk of recreational use of non-prescribed stimulants such as cocaine, amphetamines and some novel psychoactive substances, the patient should be warned of potentially dangerous interactions with prescribed medication.

Diversion of stimulants is often cited as a reason not to prescribe for this patient group (Wilens et al, 2016). However, therapeutic stimulants, particularly long-acting formulations, appear to have limited street value, possibly owing to their pharmacokinetic properties (being slow to reach peak blood levels, they are not very effective at producing a 'buzz'). Risk for diversion is significantly reduced with the use of slow-release preparations. Risks can also be minimised by supervised daily administration by third parties. Clinicians should be mindful of the use of these medications as cognitive enhancers in student populations (Wilens et al, 2016). Stimulants can improve academic performance but only in people with ADHD. There is no evidence that ADHD medication improves academic performance in students without ADHD (Lu, 2017).

Significant and comorbid substance misuse should be managed jointly between general adult and addiction services in accordance with existing local protocols.

11.2. Intellectual disability

The reported prevalence of ADHD in adults with intellectual disability (ID) varies widely. This variability is accounted for by the range of definitions and diagnostic criteria used. Prevalence rates of 16% have been reported across a wide range of severity (La-Malfa, Lassi et al, 2008).

The prevalence of ADHD in children with ID is higher than that in the general population (Hastings et al, 2005) and it increases with increasing severity of ID. The rates of 'hyperactivity' among young adults increase markedly with increasing levels of learning disability (O'Brien, 2000). The prevalence of ADHD declines with age in the general adult population (Simon et al, 2009). Recent research indicates the possibility of a longer and more persistent course of the disorder in those with ID (Neece et al, 2010). This also seems to be the case with adults who have borderline or mild levels of ID, where a more severe presentation and an uneven and less favourable pattern of improvement across the lifespan have been found (Xenitidis et al, 2010).

ADHD in the ID population is associated with an increased incidence of distressed behaviour, stereotypies, self-harm, anxiety, oppositional defiant disorder, tic disorders and sleep problems. (Simonoff, Taylor et al, 2013). It is important to establish all possible aetiological factors before starting treatment for ADHD as addressing these can improve symptoms of ADHD (Bolea-Almañac et al, 2014). In particular consider whether appropriate adaptations are being made by the people around the individual and to the physical environment in addition to a behavioural analysis of interactions.

Drug and alcohol use during pregnancy, maternal infection, encephalitis and some genetic disorders (William's syndrome, Turner's syndrome, Fragile X syndrome, Angelman, Prader-Willi, Smith-Magenis and Cornelia de Lange syndromes and phenylketonuria) have been associated with ADHD in patients with ID (Dichter, Damiano et al, 2012; Green, Avda et al, 2012; Seager, O'Brien, 2003 and Reilly & Holland, 2001,). Children who are preterm and of low birth weight have an increased risk of developing hyperactivity (Linnet et al, 2006). Epilepsy is common in children with ID; the prevalence increases with the degree of ID. There is a high rate of ADHD features in children with epilepsy, estimated as being at least 20% (Tan & Appleton, 2005).

To diagnose ADHD in adults with ID, detailed information from family members or carers will help to clarify diagnostic issues. Adult ADHD scales can be difficult to interpret when there is more than a borderline or mild level of learning disability (Bretherton, 2012). It is important when assessing those with ID to establish whether these symptoms are inconsistent with the person's developmental level (Bretherton, 2012). The more severe the level of disability, the less applicable many of the diagnostic criteria within ICD 10 and DSM IV (sic) appear to be (Bretherton, 2012). The DIVA-5-ID (download at www.divacenter.eu) is a diagnostic interview adapted for use in the ID population and is based on DSM-5 criteria (McCarthy et al, 2017).

ADHD treatment has been shown to be effective for those with ID (Reilly & Holland, 2001). There are, however, some treatment considerations for patients with ID, including non-pharmacological treatments (Bretherton, 2012). These include, considering adjustments to their environment, routine, activities, communication strategies and coping skills, with a need for consistent behavioural support strategies. For those with severe symptoms, or those who do not respond to support strategies, medication is used but individualised baseline measures of symptoms and adverse effects may need to be devised as the adult may have difficulty describing their symptoms. Choice of medication may depend upon the formulation that can be swallowed.

Careful consideration needs to be made about any associated medical problems, other comorbidity and other medications. There needs to be a baseline assessment

of sleep and appetite. Accurate weight for adults should be recorded. The appropriate growth charts for specific syndromes should be used if available, for example, for Down syndrome.

There needs to be careful monitoring of all adverse effects and thorough assessment of symptoms. The ID population are also shown to be more sensitive to side effects from medication (Simonoff, Taylor et al, 2013) therefore a more cautious introduction of medication is generally recommended.

For more detailed information on the assessment, diagnosis and management of ADHD in adults with ID see The Royal College of Psychiatrists report Attention deficit hyperactivity disorder (ADHD) in adults with intellectual disability (Royal College of Psychiatrists, 2021).

11.3. Borderline intellectual functioning

Patients with borderline ID functioning pose specific challenges, especially those with other comorbidities such as ASD. There may be variances between verbal and performance IQs and patients may benefit from resources less readily available in adult services such as those provided by allied health professionals (e.g. speech and language therapists) to assist with communication, assessment of interactions and consideration of organisational and communication strategies to address these areas. A joint approach between ID and adult mental health services may be of particular benefit, taking a needs-based focus.

Organic causes of ADHD symptoms

A later age of onset or atypical progression of the symptoms suggestive of ADHD could be caused by the following (Bretherton, 2012):

- neurocutaneous disorders such as neurofibromatosis and tuberous sclerosis
- mucopolysaccharidoses such as Sanfilippo, Hurler and Hunter syndromes
- severe head trauma such as road traffic accidents, non-accidental injury and hypoxia
- infective causes such as meningitis and encephalitis.

11.4. Offenders

The general guiding principle for custodial health services, including mental health services, is to provide a service to prisoners of equivalent quality to what they would receive if they were in the community. It is understood, however, that, because of some special aspects of the prison environment, some differences in approach are required to ensure that this equivalence of quality can be delivered.

Guidance for custodial settings should mirror as much as possible that for the general population.

It is also worth noting that most people with ADHD do not commit crimes.

Childhood ADHD has high rates of comorbidity with oppositional defiant disorders and conduct disorders. The presence of conduct disorder in turn is associated with the development of dissocial personality disorder in adults (Hofvander, Ossowski et al, 2009). Adults with untreated ADHD are often bored, sensation seeking or impulsive; this combination of states can result in poor judgement with criminal acts as a consequence.

It is therefore to be expected that the number of those who meet criteria for a diagnosis of ADHD in prison would be higher than in the general population and the available research would suggest that this is the case. The prevalence of ADHD in the prison population is indeed accepted to be much higher than in the general population, with estimates of between 25–40% (Ginsberg, Hirvikoski et al, 2009). Its presence is associated with higher rates of comorbidity, worse quality of life and higher risks of suicidal behaviour (Young, Adamou et al, 2011).

Evidence suggests that treatment of ADHD in the prison population may reduce the risk of future offending (Lichtenstein, Halldner et al, 2012). This observation however opens up the area of criminal responsibility.

The provision of reports to courts to address this and other medicolegal questions falls outside of the scope of these guidelines. It is however worth noting in this regard that resource-constrained clinical ADHD services in prisons could easily be overwhelmed by demand if a perception was established that referral to such a service was a quick route to defence report. To prevent this outcome, it is recommended that custodial ADHD services make it clear at the outset that requests for medicolegal reports should be directed towards the usual, locally agreed, channels rather than to the clinicians in the custodial mental health team.

The issue of criminal responsibility often arises. ADHD itself would not usually be thought to be relevant for a defence of lacking criminal responsibility but it has been accepted by at least one court as grounds for “abnormality of mind” in the context of a murder trial. It may also be raised as general mitigation before the courts and it may form the grounds for an assessment order under criminal procedure legislation.

ADHD is not usually regarded as grounds for detention or compulsory treatment under the Mental Health (Care and Treatment) (Scotland) Act 2003. Management requires a collaborative approach between clinician and patient that does not readily lend itself to compulsory measures.

High rates of substance misuse are described in this population and in the custodial context. Since stimulant agents used in treating ADHD are controlled drugs this can create natural anxieties among prescribers about misuse and diversion. These risks can be managed by appropriate selection of agents and the use of supervised medication.

It is important to ensure that the results of any assessments are communicated to clinicians in the community and every effort made to ensure continuity of treatment on release from custodial settings by liaising with local services in advance of release. It is noted that the nature of both the prison population and the prison system can make such liaison difficult.

11.5. Psychological trauma

There is evidence that children with ADHD are more likely than their peers to have experienced ACEs (Brown et al, 2017). ADHD is also known to be associated with risk-taking behaviour and adverse events in adulthood including assaults, accidents, relationship conflict, offending behaviour and incarceration. It is therefore important that all clinicians working with adults with ADHD adopt a 'trauma-informed' approach.

In the assessment of ADHD, trauma and its effects can easily be overlooked and can significantly affect the person's response to treatment and engagement with services. Conversely, a history of significant trauma with features of PTSD and/or EUPD can mask the presence of comorbid ADHD.

The situation is further complicated by the symptomatic overlap between ADHD, EUPD and complex PTSD and, in clinical practice, differentiating and identifying comorbidity between these can sometimes be difficult. Due to the high frequency of each of these conditions in adult mental health services, this is, however, a relatively common task for clinicians and can be achieved by careful assessment with reference to diagnostic criteria (see section on differential diagnosis (Section 9.7) and comorbidity (Section 10)).

Some people with ADHD have great difficulty engaging in structured psychological therapies due to inherent problems with attention and personal organisation. Clinicians working with patients with trauma-related issues should be aware of the need to screen for ADHD at initial assessment and, where this is present, liaise with colleagues providing psychological therapies, to ensure that any necessary adjustments are made for the condition. Treatment of comorbid ADHD may help with therapeutic engagement and can be an important aspect of 'safety and stabilisation' for people in preparation for specific trauma-focused psychological therapy. A robust multidisciplinary approach is recommended for these patients.

11.6. Parenting

Many adults with ADHD are parents and, for most, this does not impact significantly on parenting roles. ADHD traits can, however, make some aspects of parenting difficult and this can be particularly challenging where, as is common, one or more children in a family also have ADHD or another neurodevelopmental disorder. In some cases, uncontrolled parental ADHD can contribute to an environment where children may be at risk or where their needs are not fully met (Mokrova et al, 2010).

When working with adults with ADHD who are parents it is important that, as with all other health conditions, clinicians are mindful of their responsibilities in relation to child welfare and protection.

Parenting roles should be explored routinely during assessments and any concerns addressed. In complex cases a multi-agency approach may be necessary. Collaboration with children's services may also be helpful where both a child and a parent have ADHD.

Treatment with medication may be helpful for parents with ADHD in improving organisational skills and the patience required for parenting tasks. Group and individual

psychosocial interventions specifically targeting parenting skills for people with ADHD have also been described. Although further research is needed, early detection, treatment and support for parents with ADHD may be an important population-based intervention in terms of reducing exposure to adverse childhood events.

12. Management of ADHD

12.1. Implications of diagnosis

When a new diagnosis of ADHD is made in adulthood there can often be a sense of relief that an explanation has been found for lifelong difficulties. There may also be resentment that the diagnosis was not made earlier in life.

It is important to frame ADHD as being a condition that the patient now has a responsibility for managing, by promoting a sense of personal agency.

Patients may be required to inform their employer or educational establishment.

ADHD is also a notifiable condition for the DVLA (www.dvla.gov.uk). Patients should be informed that this is their responsibility. Treatment for ADHD has been shown to significantly improve driving safety (Jerome et al, 2006).

Education about ADHD is important. A variety of self-help books and websites exist for adults with ADHD (see Appendix 4 for details). Post-diagnostic support should be a component of care provided.

Peer support can be invaluable for many individuals.

Although diagnosis alone is all that some patients want, most will want to explore formal treatment options.

12.2. Treatment

Treatment plans should be devised collaboratively with reference to the patient's goals. Psychological, behavioural and occupational needs should be addressed. Treatment discussions should include providing information to the patient on the benefits of a healthy lifestyle, including exercise (NICE, 2018). Environmental modifications in particular need to be considered. The involvement of an occupational therapist may be required and/or advice to employers or education providers (see Sections 14 and 16). The revised NICE guideline is clear that environmental modifications need to be addressed first and progress to pharmacological interventions considered only if ongoing impairment in one domain subsequent to this is present.

12.2.1. Medication

Medication is recommended when there continues to be significant impairment after environmental modifications have been implemented and reviewed (NICE, 2018). Table 4 gives an overview of medications used in adult ADHD. Medications for ADHD are amongst the most effective treatments for mental disorders, with effect sizes ranging from 0.6–0.9.

Drug treatments can be classified into stimulants (methylphenidate, lisdexamphetamine, dexamfetamine) and non-stimulants (atomoxetine, guanfacine etc.). Their mechanism of action involves increased availability of synaptic dopamine and/or noradrenaline.

Stimulants have an immediate action and can therefore be titrated to an effective dose for each patient more quickly. Stimulants are usually considered before non-stimulants due to their superior efficacy. Stimulants come in immediate-release or slow/modified-release preparations. A combination of modified- and immediate-release preparations can be used to fine-tune symptom control at certain times of day. For example, a slow-release preparation taken in the morning may have little effect by evening time and can be 'topped up' with an immediate-release preparation. Stimulants have more potential for diversion/misuse, particularly immediate-release preparations. Stimulants have an appreciable positive effect on attention in those without ADHD and a 'therapeutic trial' therefore has no diagnostic value. Stimulants are controlled drugs.

The non-stimulants have a delayed onset of action similar to that of antidepressants. They are also gradually titrated but more to counter potential side effects than to reach an effective dose for that individual. Non-stimulants are not controlled drugs.

12.2.2. Licensed medications

Not all treatments licensed for ADHD in children have a licence for use with adults. However, this should not prevent medications being prescribed according to best practice and with reference to local formularies. The Royal College of Psychiatrists has produced a consensus statement for use of licensed medicines for 'off-label' uses (Royal College of Psychiatrists, 2017). Before prescribing, the clinician must ensure that the patient knows of the 'off-label' use and understands the potential risks and benefits of the medication, that this is documented clearly and that the patient is able to give fully informed consent. If prescribing responsibility is to be shared with primary care, the clinician should ensure that the risk assessment and consent issues are communicated to the GP.

Local formularies may specify preferred branded generics of reference products which are subject to change and prescribers are advised to continuously refer to this.

12.2.3. Pre-initiation of medication considerations

Pre-treatment screening should include measuring baseline ADHD symptoms with descriptions of impairment/impact on functioning, weight, heart rate, blood pressure and sleeping pattern. ADHD treatments can exacerbate seizures and tics and a history of these conditions should be directly discussed.

An electrocardiogram (ECG) is required if any of the following are present:

- family history or medical history of serious cardiac disease
- family history of early cardiac death, or
- abnormal findings on cardiac examination, and
- treatment with other medications with potential for QTc prolongation.

Further investigation and/or liaison with cardiology may be indicated in these situations.

See the physical health checklist (Medical Assessment Tool for Adults with ADHD) in Appendix 5.

12.2.4. First line medication

Methylphenidate (joint first line)

- Recommended as a first line of treatment for ADHD in adults, as is Lisdexamfetamine (NICE, 2018).

- Methylphenidate should be offered to those who have not had an adequate response to Lisdexamfetamine, if this has been the first choice, (at an adequate dose for less than six weeks) as some individuals may respond better to an alternative stimulant (NICE, 2018).

- Primarily a dopamine reuptake inhibitor, with some action on noradrenaline and other catecholamines.

- It is a controlled drug.

- Effect size of 0.5 (Cortese et al, 2018).

- Immediate-release preparations are cheaper and can allow greater fine-tuning of dosing.

Dose titration, using immediate- or slow-release preparations, should be done using the smallest available dose increments at fixed intervals (e.g. every fortnight), until an adequate response is achieved or intolerable side effects are experienced.

- Immediate-release: 5mg, 2–3 times daily, increased every 1–2 weeks by 5mg 2–3 times daily to three times daily, according to response/tolerability, to a maximum of 100mg daily.

- Modified-release: start at lowest dose, e.g. 18mg Concerta XL, increased every 1–2 weeks by minimum available dose, according to response/tolerability.

- Monitor weight, blood pressure and pulse rate.

Lisdexamfetamine (joint first line)

- The Scottish Medicines Consortium approved Lisdexamfetamine for adults with ADHD of at least moderate severity.

- Recommended as a first line of treatment for ADHD in adults, as is Methylphenidate (NICE, 2018).

- Should be offered to those who have not had an adequate response to methylphenidate, if this has been the first choice (at an adequate dose for less than six weeks), as some individuals may respond better to an alternative stimulant (NICE, 2018).

- Is a slow-release pro-drug.

- Promotes the release and prevents the reuptake of dopamine and noradrenaline.

- Dose titration follows the same principles as for methylphenidate.

- Lisdexamfetamine can have a long effect into the evening which may cause problems such as insomnia. In adults who cannot tolerate the longer effect profile, dexamphetamine (immediate-release) 2–3 times per day should be considered as an alternative (NICE, 2018).

- Conversely some individuals may notice a rebound of ADHD symptoms in the evening when lisdexamfetamine wears off. Topping up with dexamphetamine (immediate-release) in the evening may be appropriate here but can risk insomnia and tolerance.

- Dexamfetamine is considered to have more misuse/diversion potential than methylphenidate, although there is likely to be less misuse potential with lisdexamfetamine (Blick & Keating, 2007) owing to its pharmacokinetic profile. It is placed as a second-line agent in the NICE 2018 guideline and is useful for those with a good symptom response to lisdexamphetamine but not tolerating its side effects (such as insomnia).

Atomoxetine (second line)

- Non-stimulant treatment.

- Should be considered in adults unresponsive or intolerant to both methylphenidate and lisdexamphetamine.

- Also used when misuse/diversion of stimulants is a concern.

- Noradrenaline reuptake inhibitor; it is not a controlled drug.

- Delayed onset of action of several weeks with lower effect size than stimulants of 0.4 (Asherson et al 2014).

- Does not require the same individual fine-tuning of dose that stimulants require and has the advantage of once-daily dosing.

- Side effects are usually avoided by a gradual dose titration, for example starting at 40mg and increasing by 20mg per week.

- Doses above 80mg have not shown any additional benefit. Some individuals are poor metabolisers of atomoxetine and are sensitive to side effects at low doses.

- Acute liver failure and suicidality are rare but there are significant potential side effects. All patients should be advised of symptoms of these adverse events.

- Monitor weight, blood pressure and pulse rate at baseline, after each dose change and long-term every three months, with weight every six months.

- Increased risk of ventricular arrhythmias has been described when used with drugs that prolong the QTc interval.

12.2.5. Other pharmacological options

Guanfacine – an alpha agonist and a non-stimulant treatment. It has a licence for ADHD in children for whom stimulants are not suitable, tolerated or effective. It does not currently have a licence for adults but is being increasingly used.

Combinations – if there is inadequate response to monotherapy, then combining a stimulant with a non-stimulant is occasionally done in clinical practice, although there is currently limited evidence base for this.

Other treatments – other medications which have less of an evidence base are:

- bupropion (dopamine and noradrenaline reuptake inhibitor)

- modafinil (indirect dopamine enhancing substance)

- clonidine (alpha agonist) and

- noradrenergic antidepressants such as duloxetine, reboxetine, imipramine and venlafaxine. Activating antidepressants should not be taken in the evening/at night, i.e. morning and lunchtime dosing only.

Whilst every attempt has been made in this document to ensure that doses are correct, prescribers are encouraged to check doses against relevant reference documents.

In general, prescribers are encouraged to use generic names, however cost implication may mean that specific trades names are recommended by local formulary groups that may change over time. Clinicians should check the equivalency of formulations in these situations.

Table 4 – Medications for use in adult ADHD			
	Methylphenidate	**Dexamfetamine**	**Atomoxetine**
Preparation	**Immediate-release (IR)** Ritalin/Medikinet: 4h duration of action; b.d. or t.d.s.; 5, 10, 20mg tablets, max. 100 mg/day	**Short-acting** Dexamfetamine: effect 4h; b.d. or t.d.s.; 5mg tablets; max. 60 mg/day	Strattera: o.d.; 10, 18, 25, 40, 60, 80, 100mg tablets; usual dose 80mg; max. 120mg/day
	Modified-release Concerta XL: 22% IR: 78% MR); 10–12 h duration of action; o.d.; 18mg tablets; max. 108mg/day Equasym XL: (30% IR, 70% MR) 8h duration of action; o.d.; 10mg tablets; max. 100mg/day Medikinet XL (50% IR: 50% MR): 8h duration of action; o.d.; 10mg tablets; max.100mg per day	**Long-acting** Lisdexamfetamine: effect 12–13 h; o.d.; 30, 50, 70 mg tablets; max. 70mg/day	
Side effects	Reduced appetite, insomnia, depressed mood, anxiety, headache, irritability, tachycardia, tics, seizures, psychosis	Reduced appetite, insomnia, tachycardia, increased blood pressure, headache, depressed mood, anxiety, irritability, nasopharyngitis, tics, seizures	Reduced appetite, nausea, depressed mood, tachycardia, increased blood pressure, insomnia, dizziness, GI disturbance, sweating, sexual dysfunction, seizures, hepatitis
Contraindications	Cardiac disease, cerebrovascular disease, hyperthyroidism, phaeochromocytoma, vasculitis, some mental disorders (weigh risks v. benefits)	Cardiovascular disease, hypertension, arteriosclerosis, hyperthyroidism, history of drug or alcohol misuse	Phaeochro-mocytoma

See British National Formulary for full list. ADHD, attention deficit hyperactivity disorder; GI, gastrointestinal; IR, immediate release; MR, modified release.

12.3. Monitoring of medication

Weight, blood pressure and heart rate, in addition to side-effect monitoring, should be completed at each dose titration, review and every six months once stabilised. See Appendix 5 for a checklist (Monitoring treatment in ADHD).

12.3.1. Assessing response to medication

During dose titration for stimulants, enquiry should be made about reduction in core ADHD symptoms (as described in DSM 5), associated symptoms (mood instability, ceaseless mental activity), functioning and possible side effects. There are side effect

rating scales available; see Appendix 5. Possible scales that may be used in assessing response include the ASRS and the Weiss Functional Impairment Rating Scale (W-FIRS) (Weiss et al, 2007).

For stimulants, enquiry about how long the effects last is important in tailoring the preparation and dose. As blood levels of stimulants reduce towards the end of the day, some patients may notice a return of ADHD symptoms, or 'rebound symptoms' (irritability or mood changes). Changing to a slow-release preparation of longer duration or adding an immediate-release preparation in the evening can help if additional symptom control in the evening is required.

Not all ADHD symptoms can be ameliorated with treatment; it is important to manage expectations of treatment.

12.4. Comorbidity

It is usually preferable to treat any comorbid mental health problem before treating ADHD (see Appendix 3 and earlier chapter). Stimulants can potentially trigger or exacerbate psychosis, mania and tics, primarily via their dopaminergic effect. However, atomoxetine may in fact be helpful for anxiety disorders (Kratochvil et al, 2005).

Before starting ADHD treatments, it may be necessary to optimise existing treatments and weigh up the potential risks of starting ADHD treatment.

12.5. Prescribing in pregnancy

Both continuing and stopping ADHD treatments during pregnancy carry risk and an individual 'risk benefit' discussion should be had about both options. It is worth noting there is no evidence to indicate that pregnancy itself either worsens or improves ADHD symptoms.

For continuing treatment in pregnancy, the following drugs are all in category C by FDA classification: methylphenidate, amphetamine, lisdexamfetamine, atomoxetine, bupropion and modafinil (Bazire, 2012). This category includes drugs where animal studies have reported some harm without there being any robust evidence in humans. However, there is emerging data all the time. For example, a recent large Swedish registry study found an association with ADHD medication in pregnancy and preterm delivery, neonatal ICU admission and CNS disorders such as epilepsy but no increased risk of congenital malformations or perinatal death (Nörby et al, 2017). There is up-to-date information on the 'Drugs in Pregnancy' part of the 'Choice and Medication' website which includes a helpful table on safety during conception, stages of pregnancy, delivery and in breastfeeding: (http://www.choiceandmedication.org/nhs24/printable-leaflets/).

For stopping treatment in pregnancy there may be risks associated with a return of ADHD symptoms: poor emotional stability, relationship problems, impulsive behaviour, self-injurious behaviour and the use of illicit drugs, alcohol or tobacco (Bolea-Alamañac et al, 2014).

All medication in pregnancy should be discussed with the UK National Teratology Information Service (UKTIS, http://www.uktis.org/) for the most up-to-date advice or patients should be referred to local specialist perinatal services where available.

12.6. Prescribing in breastfeeding

If a mother wishes to go back on treatment postnatally and wishes to breastfeed a 'risk benefit analysis' of this option should also be explored. This would include options of breastfeeding on treatment, breastfeeding off treatment and not breastfeeding at all.

For continuing treatment in breastfeeding, case reports have suggested that methylphenidate is relatively innocuous but there is very little evidence about its longer-term effects. Caution is exercised with atomoxetine and amphetamine. Modafinil is contraindicated in breastfeeding. Bupropion accumulates in breastmilk and increases the risk of seizures in the new born. Ideally, the prescribed medication should be given in slow-release formulation and one to two hours before the child's longest period of sleep, to avoid a feed occurring during the peak secretion period (Bolea-Alamañac et al, 2014).

Coming off treatment during the postnatal period to facilitate breastfeeding may result in an increase in ADHD symptoms during a period which can be particularly challenging for mothers, due to the demands on organisation and planning.

The option of continuing treatment and avoiding breastfeeding comes with well-recognised disadvantages to both the mother and infant.

All medication in pregnancy and breastfeeding mothers should be discussed with the National teratology information service (UKTIS) and/or the UK Drugs in Lactation Advisory service (UKDILAS, https://www.sps.nhs.uk/) for the most up-to-date advice or should be referred to local specialist perinatal services where available.

12.7. Duration of treatment

Once an acceptable dose has been achieved that balances efficacy with side effects, this dose should be continued and reviewed at least annually. With stimulants, the need for ongoing treatment can be evaluated by 'drug holidays'. Often this occurs naturally through omission of doses. Routine review should enquire about the presence of symptoms on these occasions.

Clinical experience suggests that 'flexible dosing', that is as-needed dosing, is common with students and adults with ADHD, with higher doses used on weekdays compared to weekends and frequent breaks from stimulant medications at weekends. To support this, patients need to have good knowledge of the effects and side effects of medication. There is some suggestion that it may reduce the risk of tolerance. It is important to note that the non-stimulant atomoxetine cannot be used flexibly and would need to be retitrated if discontinued (Muller-Sedgwick et al, 2020). To date there are no randomised controlled trials to support this practice though the principles of Realistic Medicine are to support people using healthcare services to feel empowered to discuss their treatment

fully with healthcare providers, including the possibility that a suggested treatment may come with side effects and decisions should be arrived at jointly (Calderwood, 2017).

Treatment can allow patients to develop new ways of coping with residual symptoms. This, along with the general trend for symptoms to improve with age, means the need for ongoing treatment should be reviewed. It has been suggested that this be done on an annual basis (Kolar et al, 2008).

Discontinuation of treatment should be done gradually with non-stimulants to avoid withdrawal effects but stimulants can be withdrawn more rapidly.

Discussion should occur at this point around early warning signs of relapse, considering environmental triggers and stressors. An action plan to address these should be devised including non-pharmacological and pharmacological options. For resuming medication, advice should be given of the need for titration rather than the resumption of a full dose treatment previously given.

13. Post-diagnostic support and education

The importance of psychoeducation and post-diagnostic support is outlined in the NICE Guideline (NICE, 2018). Following diagnosis an opportunity to discuss the diagnosis and its implications should be put in place for both the patient and carer(s).

The focus of this should address what the symptoms of ADHD are and specifically relate this to the symptoms experienced by the patient. Highlight strengths in addition to weaknesses and cover what treatment options are available and how to access them. Other comorbid diagnoses should also be covered.

The biological, psychological and social aspects of treatment should be discussed and particular reference made to environmental modifications that may be of benefit (see Section 14, ADHD and the workplace). Self-support information should additionally be provided.

Guidance on driving should form part of the conversation (see Section 14).

Patients with ADHD who are parents may have additional support needs that need to be considered.

Where other healthcare professionals are involved, consent should be obtained to share relevant information on diagnosis and treatment.

14. Non-pharmacological interventions

Environmental adaptation is the first-line approach and should be implemented and reviewed prior to and alongside all medication treatments. Psychological, behavioural, occupational and educational needs should be addressed in an initial treatment plan post diagnosis.

When impairment continues beyond environmental adaptation, non-pharmacological treatment should be considered when patients

i choose not to opt for medication

ii have difficulty adhering to medication or

iii have found medication ineffective or difficult to tolerate (NICE, 2018).

It is also envisaged that many patients with ADHD could potentially benefit from the practical and emotional support offered to other patients by multidisciplinary mental health teams. In particular, the input of occupational therapists (OTs) can be very useful in terms of helping patients to structure their time and improve organisational skills and in assisting with access to further education and/or employment.

There is some low-quality evidence that cognitive-behavioural-based treatments may be beneficial for treating adults with ADHD in the short term (Cochrane, 2018). Reductions in core symptoms of ADHD have been achieved in addition to some low-quality evidence that cognitive behavioural therapy (CBT) may also improve common secondary disturbances in adults with ADHD, such as depression and anxiety.

Evidence-based interventions for comorbid conditions should still be offered in the context of ADHD and should not be overlooked.

Approaches utilising cognitive behavioural therapy and coaching strategies can be useful in practice. Group-based interventions using these techniques have been developed, e.g. the Young-Bramham programme (Young & Bramham, 2012).

A group-based OT intervention, called the SPARKS course (Sharing, Problem Solving, Achieving, Resilience, Knowledge and Strengths) has been developed in NHS Lothian to meet this need. This course aims to enable participants to identify and build upon their strengths and develop strategies that will help improve their lives (Moran & Robertson).

It is important that all multidisciplinary staff working in mental health settings develop an understanding of ADHD and its management in adults.

15. Sleep disorders commonly associated with ADHD in adults

Sleep problems have been reported in 25–55% of patients with ADHD (Hvolby, 2015) and in a systematic literature review, sleep problems were reported to be among the most common comorbidities associated with ADHD (Instanes et al, 2016).

These sleep problems include:

15.1. Insomnia

Insomnia is a sleep disorder characterised by difficulty falling or staying asleep, even when a person has the chance to do so. There can be prolonged sleep onset, delayed bedtime and frequent night awakenings in individuals with ADHD. It is more frequent among children (73.3%; Sung et al, 2008) and adults with ADHD (66.8%; Brevik et al, 2017) than in the general population (children: 20%–30%; Calhoun et al, 2014; adults: 6%–50%; Nowicki et al, 2016).

Treatment options include good sleep hygiene and behavioural techniques, e.g. CBT-I, relaxation training, sleep restriction and biofeedback which can be used alone or in conjunction with sleep medication (Morgenthaler et al, 2006).

Optimal titration of stimulants is crucial. Co-medication with melatonin and other sleep medications can be avoided if patients are instructed to use long-acting stimulants as soon as possible in the morning and supplemented with shorter acting stimulants if needed.

It should be noted that children with insomnia who are treated with stimulants, sleep hygiene and melatonin maintain the beneficial effects of the stimulants on ADHD symptoms, as well as improved sleep (Weiss et al, 2006). Therefore consideration should be given to continuing melatonin as an adult.

15.2. Delayed sleep phase syndrome

Delayed sleep phase syndrome (DSPS) is more common in adolescents and is a disorder is which a person's sleep is delayed by two hours or more beyond what is considered an acceptable or conventional bedtime. This leads to high activity levels during the evening and night, thereby causing impairment in routine functioning due to increasing sleep debt and daytime sleepiness. Treatment is generally with melatonin but light therapy and chronotherapy (gradually re-establishing a more regular bedtime) can be discussed (Auger et al, 2015).

15.3. Medications used in ADHD and sleep disturbances

Stimulant medications work by sympathomimetic action of the drug on the body to promote wakefulness (Morgenthaler et al, 2007). However, reports also point to the paradoxical effects that are associated with stimulants which may improve symptoms and can lead to calmness and promotion of sleep (Kooij et al, 2001). When using long-acting stimulants occasionally a rebound phenomenon can occur which is associated with wearing off of the stimulant when nearing bedtime, leading to hyperactivity at or before bedtime. This can be managed by using a short-acting stimulant in late afternoon/early evening or use a combination (long-acting preparation) with a longer duration of action so as to prevent the rebound phenomenon (Cortese et al, 2013a; Lecendreux et al, 2000).

Non-stimulants are associated with somnolence as the most common adverse effect; consideration can be given to the time of dosing to reflect this. Extended-release guanfacine and extended-release clonidine have been associated with somnolence as well, although the effects of guanfacine on ADHD symptoms are reported to be independent of its sedative properties in children and adolescents (Faraone et al, 2013; Cortese et al, 2013b; Kollins et al, 2011).

Restless leg syndrome (RLS); obstructive sleep apnoea (OSA); narcolepsy; periodic limb movement disorder (PLMD) can occur comorbidly with ADHD (Mehta et al, 2019; Wajszilber et al, 2018).

16. ADHD in the workplace

ADHD and/or associated comorbid conditions can impact on a person's ability to perform their job in the workplace. Problems such as poor job performance, lower occupational status, less job stability and increased absence days have been documented (Adamou, Arif & Asherson et al, 2013).

Adults with ADHD may also present with 'hidden impairments', such as autism spectrum disorders, dyspraxia, dyslexia and dyscalculia (Adamou, 2012).

There are associated strengths with a diagnosis of ADHD which can confer advantages, for example being energetic, spontaneous and creative, and the ability to 'hyper-focus' on tasks that are of interest to the individual.

Sometimes a person with ADHD needs assistance with harnessing these traits to their benefit and/or managing symptoms of ADHD.

In addition to core symptoms, problems with attention and concentration, difficulties can arise with tasks that require 'self-monitoring', that is, executive function tasks. This can take the form of poor time management, difficulty setting priorities and problems with organisation.

Medication should be tailored to cover the working day as much as possible.

Affected individuals should be encouraged to choose areas of work that provide a best fit with their interests, in addition to choosing an occupation that provides a suitable environment for them.

Employers can seek guidance from professionals about reasonable adjustments.

Where an individual is not in employment, consider referring them to appropriate services. There are mainstream governmental employment support services: mygov.scot/help-find-job/. Individuals requiring additional support should be referred to occupational therapy.

16.1. Reasonable adjustments

Reasonable adjustments can be made in the following areas:

Providing a supportive framework to assist with self-monitoring by:

- implementing systems, such as regular review meetings to assist with time management and task prioritisation, e.g. daily meetings
- provision of structured feedback
- providing information in written format with clear concise instructions, broken into steps

- encouraging the use of notes or post-its in meetings
- encouraging use of checklists
- introducing checks by others
- encourage use of diaries/planners.

Modifying external distracters

- provision of a private office or location positioned to reduce distractibility
- offers of flexitime or home working
- provision of headphones to reduce external noise.

Modifying internal distracters

- allowing movement at work
- allowing regular breaks.

When managing employees who have a diagnosis of ADHD, companies should be mindful of their legal obligations; under the Equality Act 2010 an employee with ADHD may be considered to have a disability if the condition has a "substantial and long-term negative effect on their ability to carry out normal day-to-day activities". Cases depend on individual circumstance, that is severity of symptoms and context (Loch & McGregor, 2017). It is important to remember that some adults with ADHD have very successful careers. Each individual will have their own unique profile.

The Children and Adults with ADHD (CHADD) website have a helpful page with suggestions for managing different aspects of the condition https://chadd.org/for-adults/workplace-issues/. The Scottish ADHD Coalition have developed a guidance document for employers to support employees who have diagnoses of ADHD (https://www.scottishadhdcoalition.org/adhd-and-employment/). In addition, training for employers has been facilitated.

Some employers may request information from clinicians to help risk assess the impact of a diagnosis of ADHD and prescribed medication on function, especially in safety critical work (e.g. offshore working).

Factors that may need to be considered include the nature of the work, the impact of ADHD on the individual and the impact of prescribed medication. Information on the stability of symptoms, treatment and side effects, in addition to length of time on treatment, would be informative in decision making. Specific risk assessment pertaining to specialist environments would best be directed to employer's medical advisors. Some occupations include driving and travel.

See Appendix 6 for template letters supporting requests for reasonable adjustments.

16.2. Driving and ADHD

ADHD is one of the medical conditions in which there is a legal responsibility for the licence holder to notify the DVLA if ADHD or medication for this affect the ability to drive safely. A diagnosis is not in itself a bar to licensing for Group 1 licence holders

(cars and motorcycles). The DVLA considers levels of impulsivity and awareness of the impact of behaviours on self and others.

Provisional licence applicants do not need to tell the DVLA about their condition unless it could affect their ability to drive safely.

If already a licence holder, the DVLA needs to be notified if:

- there is a change to the condition that may result in unsafe driving
- medications are prescribed that cause side effects that will affect driving.

A self-referral form is available on the DVLA website (form A1 https://www.gov.uk/adhd-and-driving)

For Group 2 (bus and lorry) holders licensing is considered individually following medical enquiries. Licensing may be granted if continuing symptoms are minor. Studies have suggested that being on treatment for ADHD improves driving performance.

16.3. Travel and ADHD

The GOV.UK website has useful information for travelling with medicine containing a controlled drug. Patients are best advised to check with the embassy or high commission of the country that they plan to visit, to check the status of amphetamines in that country.

Prescribers may need to provide a letter to evidence that the medicine is prescribed for the patient. This letter should include the following information:

1. the patient's name
2. what country they are going to and when
3. a list of medicines, including how many tablets there are, dose and strength, and
4. the signature of the prescriber.

If travelling for three months or longer, or carrying a supply of medication that would last three months or more, a licence may need to be obtained.

17. Service design

Diagnostic rates in Scotland suggest under detection of ADHD in children (NHS Service Over Scotland report, 2012). As awareness and diagnostic rates increase, an increased demand on adult services is likely to follow and this has been observed across health boards in Scotland. Health boards should develop proactive strategies to meet the predictable increase in need for this adult group, in line with recommendations (Scottish Government, 2012). It is unlikely that this work can be absorbed within existing community mental health services; it is indisputable that some additional financial investment will be required. Service design needs to consider providing interventions to match the level of intensity of need with a clear governance framework supporting delivery across the levels spanning third sector provision, to primary mental health care, secondary and tertiary services and ensuring accessibility between all. Interagency and multidisciplinary approaches are essential whichever service model is selected. Involvement of people with lived experience should inform service design and ongoing quality assurance.

There are specific roles for occupational therapy given the importance of environmental modifications, nurse prescribers and pharmacists to support pharmacotherapy and other clinician roles such as physician associates.

Service delivery should be based on the guiding principles outlined by the National Clinical Strategy for Scotland and the National Mental Health Strategy for Scotland.

Quality must be a primary concern and all developments should seek to ensure that there is optimal patient safety, clinical effectiveness and a person-centred approach to care taken.

Developments need to be evidenced based and promoting of personal agency in keeping with the Realistic Medicine agenda.

The National Mental Health Strategy for Scotland emphasises the need to continue to work to improve services in the following key areas:

- prevention and early intervention
- access to treatment and joined-up accessible services
- focus on the physical wellbeing of people with mental health problems, and
- focus on rights information use and planning.

Service developments for management of adult ADHD need to specify how they will address these areas.

17.1. Service models

Across Scotland's health boards, the development of comprehensive services for the assessment and management of ADHD in adults is at an early stage. Indeed, there are still some areas which have, until recently, failed to acknowledge this in any consistent

way as a clinical need. The Scottish Government have been supportive in challenging this.

Elsewhere in Scotland, various service models have evolved for managing ADHD in adults. In the majority of health boards these are generally sited within existing adult community mental health teams (CMHTs). In NHS England service models are different as is the structure responsible for delivery.

Concern has been expressed by clinicians at secondary care level that diagnosis and management of the milder presentations of ADHD does not necessarily always fit with the threshold of referral into secondary care with respect to complexity and risk management.

The ethos of Realistic Medicine highlights the need for people in health and social care, and people who use services, to think about the values and the behaviours that underpin good experiences and draw on these to have meaningful conversations to plan and agree care that is based around what matters most to people, with a shared understanding of what healthcare might realistically deliver.

Health and social care partnerships are well placed to develop stepped approaches to service delivery in partnership across agencies and disciplines configured to meet local needs. Consideration needs to be given to supports in the third sector, developments with primary mental health care and clarity around thresholds and roles for secondary care services.

It is important in designing services that they are properly resourced, with sufficient multidisciplinary skill available and that there is access to specialist expertise for patients with more complex presentations.

Examples of current service provision include:

- NHS Lothian has a joint ADHD and ASD pathway, assessment and management being delivered through existing general adult community teams, newly diagnosed patients having access to a positively evaluated post-diagnostic educational programme delivered by occupational therapists. Community teams, in turn, are supported by a tertiary level Lothian-wide specialist multidisciplinary team that provides more detailed assessment and advice for complex cases or where diagnosis and management are unclear. The specialist team also has a major role in education and training of students and staff in mental health services, health services in general, social services and the wider community.

- In NHS Fife a nurse specialist post has been successfully piloted (similar to CAMHS model) interfacing and supporting CMHTs, with plans to expand this role.

- In NHS Tayside a similar nurse specialist role and a shared-care protocol for management of ADHD medication have been described, though is no longer in operation.

- In NHS GG&C the scale of the health board area has brought particular challenges in addressing the needs of this population in a standardised way. The focus to this point has been on the training of psychiatrists and MDT staff, with individual clinicians with a special interest offering support on an ad hoc basis. More recently a multidisciplinary group has been formally established to develop a framework for ADHD services. This group incorporates representation from adults with lived experience of ADHD. It is likely this will propose a tiered approach with the bulk of services remaining embedded in CMHTs. The roles of nurse specialists, third sector organisations and service users' groups are also being explored, in addition to training needs for staff and cost implications.

- NHS Lothian has developed a pathway for adult ADHD within its prisons and HMP/YOI Polmont additionally have a pathway.

- In NHS Lanarkshire there is a neurodevelopmental approach with a specialist clinic supporting CMHT delivery of care. The interface with primary care is overseen by a steering group.

The different service models each have their own advantages and disadvantages and it is unlikely that any one particular model will suit all areas. When considering this, issues around population, training, staffing and finance should be considered. All are based in secondary care as a default, reflecting how services are currently configured, rather than by design.

Overall, it is likely that services will need reorganisation, developing pathways, expansion across levels, including development within primary mental health care as specialist teams and the third sector, and training to efficiently meet the needs of adults with ADHD.

17.2. Guiding principles for service design

17.2.1. Prevention and early intervention

The importance of early identification and intervention is significant given the direct and indirect consequences of untreated ADHD. Whilst awareness of ADHD in children has increased, awareness of ADHD as being an adult condition lags behind. In adults presenting for the first time, opportunities for early intervention have been missed, however there is still scope to prevent comorbidities. Actions to increase awareness within services through targeted training for staff (within the third sector, primary and secondary care and the prisons) and build awareness within the general public should be part of development plans. Examples of this are training packages developed within NHS Lothian, efforts to engage with agencies supporting employment or education (NHS Fife and GG&C) and signposting and provision of online information for the public and partner agencies (GG&C).

As life expectancy increases it is likely that the need for treatment within the over-65 population will expand. Services need to have flexibility around the interface between adult and older adult services to accommodate this need.

17.2.2. Access to treatment and joined-up accessible services

It is anticipated that 25 per 100,000 population will transition from child to adult services with a primary diagnosis of ADHD per year (NICE benchmarking).

Transitional protocols agreed between paediatrics or CAMHS and adult services will reduce variation in practice with respect to referral onwards, especially at a time of known high attrition rates from services. Standards for such protocols have been developed by the Royal College of Psychiatrists in Scotland ADHD Working Group (Appendix 1).

In addition, patients with previous diagnosis who have dropped out of treatment may represent as adults and individuals who have not been diagnosed but meet criteria for caseness and may present as adults to services.

Some services are working towards a lifespan approach to management of ADHD by exploring boundaries between children's and adult services.

Demand capacity planning should be integral to service plans and capacity developed within services to manage need.

Health boards should develop clear guidance for referrers and have transparent arrangements in place to manage diagnosis and treatment. Initial processes to assist with information gathering prior to clinician involvement using questionnaires can help with time management.

Developing a central resource where questionnaires can be accessed is recommended.

The wider multidisciplinary team can be employed in information gathering to support diagnosis and delivery of treatment. Diagnosis is based on a clinical impression which can be assisted by questionnaires and clinicians need to be skilled in differentiating diagnoses and identifying comorbid conditions which frequently co-occur.

Systems need to be established to routinely alert to parenting responsibilities and statutory responsibilities in reporting concerns addressed.

Treatment should include access to psychosocial interventions and be trauma informed. Childhood psychosocial trauma exposure is highly prevalent. People with ADHD are often bullied, feel they don't fit in, struggle academically and socially and are admonished by adults for behaviours over which they have little or no control. Trauma, if present with ADHD, can exacerbate ADHD symptoms; at the same time ADHD may also increase the risk of exposure to trauma (Brown, 2020).

A stepped approach to care is helpful, maximising resources, and consideration should be given to collaboration with third sector organisations and peer support to assist with life skills coaching and reintegration.

Models already established in children's services, such as the role of a specialist nurses and pharmacist prescribers, should be considered.

Rigid adherence to patient access policies in particular, may not suit the needs of this population and a flexible approach which could be assisted by the use of technology (text message reminders or remote consultation) and may help with attendance.

There is considerable overlap of ADHD with other neurodevelopmental disorders (see Section 9.7.4 and Table 1). Some health boards have identified potential merit in amalgamating neurodevelopmental pathways in the future.

An integrated approach may require a discrete local resource to lead on developing local care pathways and providing specific clinical consultative expertise and education.

Health boards with prisons are recommended to develop pathways to manage adult ADHD both for identification and continuation of treatment and with particular consideration given to communication with local services verifying previous treatment and facilitating treatment post release.

Post-diagnostic support enables recovery and reintegration and builds on a sense of personal agency. Occupational therapy and peer support workers have been used within models in Scotland to deliver this.

Involvement of adults with lived experience of ADHD and carers is also crucial to any discussions regarding service development. Current issues fed back by peer support groups in Scotland include the difficulty accessing diagnosis and treatment in certain geographical areas and, in areas where this is available, poor access to non-pharmacological interventions.

It is a requirement for all trainees in psychiatry to demonstrate competencies in the recognition of NDDs (Royal College of Psychiatrists, 2013). Training programmes should reflect this need. Training in neurodevelopmental disorders including adult ADHD should be incorporated into the undergraduate medical curriculum in all Scottish medical schools.

There is also a requirement to upskill existing career grade psychiatrists and consultants through provision of appropriate continuing professional development (CPD). Opportunities for training include the Royal College of Psychiatrists' CPD Online at https://elearninghub.rcpsych.ac.uk/ and various national training courses, including those provided by the Royal College of Psychiatrists in Scotland. However, this does not negate the need for locally organised clinical training and opportunities for supervision.

Given the high prevalence of adult ADHD and its comorbidities, all members of the multidisciplinary team need to be involved in the diagnosis and management of adult ADHD. The ability to deliver non-pharmacological interventions and to contribute to case management is also essential. This is likely to have significant additional training requirements. Health boards must ensure that these training needs are met and processes are in place to ensure skills are continuously updated.

17.2.3. Focus on physical wellbeing

The importance of a collaborative approach with GPs also needs to be considered. Many GPs will have experience of managing children with ADHD but may be less familiar with this disorder in adults and may have expectations that adult CMHTs will offer the same service to patients with ADHD as CAMHS.

There is scope for the development of shared care protocols with primary care for longer-term management, similar to those in use by CAMHS. Some health boards already have shared care protocols in place for ADHD in adults.

An area requiring specific further development is that of provision for longer-term monitoring of stable patients on ADHD medication. There is no doubt that diagnosis and initiation of treatment for ADHD needs to take place in mental health services with specific expertise. Patients with complex presentations, significant risk issues or major comorbidities are likely to require multidisciplinary team input and regular review at secondary care level.

Many adult patients who are stabilised on regular medication are, however, able to function at a high level and would not otherwise meet criteria for long-term CMHT input. Consequently, from the perspective of clinical need, treatment for this group of stable patients could be undertaken in primary care. This would require initial agreement, resourcing, training and protocols to be established between secondary and primary care for medication monitoring and review and for timely reaccess to mental health secondary care specialist services when/if this was required.

The recent changes to the GP contract may make GPs, understandably, disinclined to take on what may be seen as extra work, so it is clearly important that any proposals to develop services for adults with ADHD should include appropriate representation from Primary Care.

17.2.4. Focus on rights, information use and planning

Recovery and reintegration are the main goals of treatment. Environmental adjustments to meet the needs of patients with ADHD can have a significant positive impact on functioning and reduction in impairment. Mental health services can facilitate appropriate adaptations within the workplace through provision of occupational health reports in addition to interfacing with third sector employment support agencies. Service design should consider establishing links with third sector providers of employment support.

Assessments through use of remote technology are possible and confer some advantages, the quality of the assessment being more relevant than the mode employed to deliver it.

Quality assurance should be built into service models. Outcome measures used currently for adult ADHD include measurements of functioning such as the WHODAS or WFIRS. Services should consider embedding quality indicator profiles; these could include measurements of access times to treatment in addition to outcomes. Service-user involvement is essential to establishing a meaningful dataset.

18. Managed clinical network

Given the evolving nature of skills acquisition and knowledge in the area of managing adult ADHD, and the complexity of some patient presentations, we recommend that a managed clinical network be set up to share skills and expertise in adult ADHD.

19. References

Adamou M (2012) Hidden impairments, the Equality Act and occupational physicians. *Occup Med (Lond)*, **62(1)**:79

Adamou M, Arif M, Asherson P et al (2013) Occupational issues of adults with ADHD. *BMC*, **13**:59

Adler LA, Goodman D, Weisler R, Hamdani M & Roth T (2009a) Effect of lisdexamfetamine dimesylate on sleep in adults with attention-deficit/hyperactivity disorder. *Behav Brain Funct*, **5**:34.

Allison C, Auyeung B & Baron-Cohen S (2012) Toward brief "Red Flags" for autism screening: the Short Autism Spectrum Quotient and the Short Quantitative Checklist for Autism in toddlers in 1,000 cases and 3,000 controls. *Journal of the American Academy for Child and Adolescent Psychiatry*, **51**:202–12.

American Psychiatric Association (2013) Diagnostic and statistical manual of mental disorders, 5th edition (DSM-5).

Anker E, Bendiksen B & Heir, T (2018) Comorbid psychiatric disorders in a clinical sample of adults with ADHD, and associations with education, work and social characteristics: A cross-sectional study. *BMJ Open*, **8**:e019700. doi: 10.1136/bmjopen-2017-019700

Antshel KM, Zhang-James, Y & Faraone SV (2013) The comorbidity of ADHD and autism spectrum disorder. *Expert Review of Neurotherapeutics*, **13**:1117–28.

Asherson, P (2005) Clinical assessment and treatment of attention deficit hyperactivity disorder in adults. *Expert Review of Neurotherapeutics*, **5**:525–39.

Asherson P, Bushe C, Saylor K, et al (2014) Efficacy of atomoxetine in adults with attention deficit hyperactivity disorder: An integrated analysis of the complete database of multicenter placebo-controlled trials. *Journal of Psychopharmacology*, **28**:837–46.

Auger RR, Burgess HJ, Emens JS et al (2015) Clinical practice guideline for the treatment of intrinsic circadian rhythm sleep-wake disorders: Advanced Sleep-Wake Phase Disorder (ASWPD), Delayed Sleep-Wake Phase Disorder (DSWPD), Non-24-Hour Sleep-Wake Rhythm Disorder (N24SWD), and Irregular Sleep-Wake Rhythm Disorder (ISWRD). *An Update for 2015: An American Academy of Sleep Medicine Clinical Practice Guideline. J Clin Sleep Med*, **11(10)**:1199–1236.

Barkley, RA (2007) Barkley's quick-check for adult ADHD diagnosis. *Jones and Bartlett.*

Barkley, RA, Murphy, KR (2006) Attention deficit hyperactivity disorder: A clinical workbook (3rd edition). *Guilford Press.*

Bazire S (2012) Psychotropic drug directory 2012: The professionals' pocket handbook and aide memoire. *Lloyd-Reinhold Communications.*

Biederman J, Mick E, Faraone SV, et al (2002) Influence of gender on attention deficit hyperactivity disorder in children referred to a psychiatric clinic. *Am J Psychiatry;159(1):36–42.*

Biederman J (2003) Pharmacotherapy for attention-deficit/hyperactivity disorder (ADHD) decreases the risk for substance abuse: Findings from a longitudinal follow-up of youths with and without ADHD. *Journal of Clinical Psychiatry*, **65**:3–7.

Biederman J, Monuteaux MC, Mick E et al (2006) Psychopathology in females with attention-deficit/hyperactivity disorder: a controlled, five-year prospective study. *Biol Psychiatry* , **60**:1098–1105.

Biederman J, Ball, SW & Monuteaux MC (2007) Are girls with ADHD at risk for eating disorders? Results from a controlled, five-year prospective study. *J Dev Behav Pediatr*, **28**:302–307.

Blick SK & Keating, GM (2007) Lisdexamfetamine. *Paediatric Drugs*, **9**:129–35; discussion 136–8.

Bolea B, Adamou M, Arif M et al (2012) ADHD matures: Time for practitioners to do the same? Journal of Psychopharmacology, 26:766–70.

Bolea-Alamañac B, Nutt DJ, Adamou, M et al (2014) Evidence-based guidelines for the pharmacological management of attention deficit hyperactivity disorder: Update on recommendations from the British Association for Psychopharmacology. *Journal of Psychopharmacology*, **28**:179–203.

Bretherton K (2012) ADHD and learning disability. *Cutting Edge Psychiatry in Practice*, **2**:113–18.

Brevik, EJ, Lundervold, AJ, Halmoy A et al (2017) Prevalence and clinical correlates of insomnia in adults with attention-deficit hyperactivity disorder. *Acta Psychiatr Scand*, **136(2)**:220–27.

Breyer JL, Lee S, Winters K et al (2014) A longitudinal study of childhood ADHD and substance dependence disorders in early adulthood. *Psychology of Addictive Behaviors*, **28**:238–46.

Brown NM, Brown SN, Briggs RD et al (2017) Associations between adverse childhood experiences and ADHD diagnosis and severity. *Acad Pediatr*, **17(4)**:349–55

Brown, NM (2020) Childhood trauma and ADHD: A complete overview and clinical guide. *Additude* https://www.additudemag.com/adhd-and-trauma-overview-signs-symptoms/

Brown, T & Ryland, H (2019) Recruitment to psychiatry: A global problem. *B J Psych*, **feb 16 (1)**:1–3.

Brown, TE (1996). *Brown attention-deficit disorder scales (BrownADDScales). Pearson.*

CADDRA (2014) Weiss functional impairment rating scale – SELF REPORT (WFIRS-S). *Canadian ADHD Resource Alliance (*https://www.caddra.ca/ pdfs/caddraGuidelines2011WFIRS_S.pdf).

Calderwood, C (2017) Realising realistic medicine: Chief Medical Officer for Scotland's annual report 2015–16. The Scottish Government https://www.gov.scot/publications/chief-medical-officer-scotland-annual-report-2015-16-realising-realistic-978178652673

Calhoun SL, Fernandez-Mendoza J, Vgontzas AN et al (2014) Prevalence of symptoms in a general population sample of young children and preadolescents: Gender effects. *Sleep Med*, **15(1)**:91–95.

Castels X, Ramos-Quiroga JA, Bosch R et al (2011) Amphetamines for attention deficit hyperactivity disorder (ADHD) in adults. *Cochrane Database of Systematic Reviews*, 15:CD007813.

Classen S et al (2013) Evidence-based review on intervention and determinants of driving performance in teens with attention deficit hyperactivity disorders or autism spectrum disorder. *Traffic Inj Prev*, 14:188–93 https://www.gov.uk/travelling-controlled-drugs

CMO (2009) Arrangements for NHS patients receiving healthcare services through private healthcare arrangements. SGHD/CMO(2009)3

Cochrane Systematic Review (2018) Cognitive-behavioural interventions for attention deficit hyperactivity disorder (ADHD) in adults. https://pubmed.ncbi.nlm.nih.gov/29566425/

Conners CK, Erhardt D, Epstein JN, et al (1999) Self-ratings of ADHD symptoms in adults I: Factor structure and normative data. *Journal of Attention Disorders*, **3**:141–51.

Copeland ED (1987) Copeland symptom checklist for attention deficit disorders – Adult version. ADD Warehouse.

Cortese S, Adamou M, Giovane CD et al (2018) Comparative efficacy and tolerability of medications for attention-deficit hyperactivity disorder in children, adolescents, and adults: A systematic review and network meta-analysis. *Lancet Psychiatry*, **5(9)**:727–38, DOI: https://doi.org/10.1016/S2215-0366(18)30269-4

Cortese S, Brown TE, Corkum P et al (2013a) Assessment and management of sleep problems in youths with attention-deficit/hyperactivity disorder. *J Am Acad Child Adolesc Psychiatry*, **52**:784–96.

Cortese, S, et al (2013b) Practitioner review: Current best practice in the management of adverse events during treatment with ADHD medications in children and adolescents. *J Child Psychol Psychiatry*, **54**:227–46.

Dalsgaard S, Mortensen P, Frydenberg M et al (2014) ADHD, stimulant treatment in childhood and subsequent substance abuse in adulthood – A naturalistic long-term follow-up study. *Addictive Behaviors*, **39**:325–8.

Deberdt W, Thome J, Lebrec J, et al (2015) Prevalence of ADHD in nonpsychotic adult psychiatric care (ADPSYC): A multinational cross-sectional study in Europe. *BMC Psychiatry*, **15**:242.

Dichter GS, Damiano, CA & Allen, JA (2012) Reward circuitry dysfunction in psychiatric and neurodevelopmental disorders and genetic syndromes: Animal models and clinical findings. *Journal of Neurodevelopmental Disorders*, **4**:19.

Dinkler L, Lundstrom S, Gajwani R et al (2017) Maltreatment-associated neurodevelopmental disorders: A co-twin control analysis. *J Child Psychol Psychiatry Jun*, **58(6)**:691–701.

Dittmann RW et al (2013) Efficacy and safety of lisdexamfetamine dimesylate and atomoxetine in the treatment of attention-deficit/hyperactivity disorder: a head-to-head, randomized, double-blind, phase IIIb study. *CNS Drugs*, **27**:1081–92.

Donev, R, Gantert, D, Alawam, K, et al (2011). *Comorbidity of schizophrenia and adult attention-deficit hyperactivity disorder. World Journal of Biological Psychiatry*, **12(Suppl 1)**:52–6.

Epstein JN, Johnson, DE & Conners CK (2001) CAADID: Conners' adult ADHD diagnostic interview for DSM-IV. *MHS.*

Faraone SV & Biederman J (2005) What is the prevalence of adult ADHD? Results of a population screen of 966 adults. *Journal of Attention Disorders*, **9**:384–91.

Faraone SV, Biederman J, Monuteaux MC (2000) Toward guidelines for pedigree selection in genetic studies of attention deficit hyperactivity disorder. *Genetic Epidemiology*, **18**:1–16.

Faraone SV, Biederman J & Mick E (2006) The age-dependent decline of attention deficit hyperactivity disorder: A meta-analysis of follow-up studies. *Psychological Medicine*, **36**:159–65.

Faraone SV, McBurnett K, Sallee FR et al (2013) Guanfacine extended release: A novel treatment for attention-deficit/hyperactivity disorder in children and adolescents. *Clin Ther*, **35**:1778–93.

Fuller-Thomson E, Lewis DA & Agbeyaka SK (2016) Attention-deficit/hyperactivity disorder casts a long shadow:

Findings from a population-based study of adult women with self-reported ADHD. *Child Care Health Dev Nov*, **42(6)**:918–27.

Gillberg C (2010) The ESSENCE in child psychiatry: Early symptomatic syndromes eliciting neurodevelopmental clinical examinations. *Research in Developmental Disabilities*, **31**:1543–51.

Ginsberg Y, Hirvikoski T & Linderfors N (2010) Attention deficit hyperactivity disorder (ADHD) among longer-term prison inmates is a prevalent, persistent and disabling disorder. *BMC Psychiatry*, **10**:11

Green T, Avda S, Dotan I et al (2012) Phenotypic psychiatric characterization of children with Williams syndrome and response of those with ADHD to methylphenidate treatment. *American Journal of Medical Genetics Part B: Neuropsychiatric Genetics*, **159B**:13–20.

Hastings RP, Beck A, Daley D et a. *(2005) Symptoms of ADHD and their correlates in children with intellectual disabilities. Research in Developmental Disabilities*, **26**:456–68.

Healthcare Improvement Scotland (2012) Attention deficit and hyperkinetic disorders services over Scotland. *Final report. NHS Scotland.*

Hofvander B, Ossowski B, Lundström S, et al (2009) Continuity of aggressive antisocial behaviour from childhood to adulthood: The question of phenotype definition. *International Journal of Law and Psychiatry*, **32**:224–34.

Hvolby A (2015) Associations of sleep disturbance with ADHD: Implications for treatment. *Atten. Defic. Hyperact. Disord*, **7**:1–18.

ISD Scotland (2018) Medicines used in mental health years 2007/08 – Years 2017/18. Information Services Division Scotland & NHS National Services Scotland: https://www.isdscotland.org/Health-Topics/Prescribing-and-Medicines/Publications/2018-10-09/2018-10-09-PrescribingMentalHealth-Report.pdf?65908449889

Instanes JT, Klungsøyr K, Halmøy A et al (2018) Adult ADHD and comorbid somatic disease: A systematic literature review. *Journal of Attention Disorders*, **22**:203–228.

Jerome, L, Segal, A, Habinski, L (2006) What we know about ADHD and driving risk: A literature review, meta-analysis and critique. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, **15**:105–25.

Joint Formulary Committee (2016) Methylphenidate modified release in British National Formulary (online). *BMJ Group and Pharmaceutical Press:* https://www.medicinescomplete.com/mc/bnf/current.

Joshi, G, Faraone, SV, Wozniak, J, et al (2017). *Symptom profile of ADHD in youth with high-functioning autism spectrum disorder: A comparative study in psychiatrically referred populations. Journal of Attention Disorders*, **21(10)**:846–855.

Kessler RC, Adler L & Ames M (2005) The World Health Organization adult ADHD self-report scale (ASRS): A short screening scale for use in the general population. *Psychological Medicine*, **35**:245–56.

Kessler RC, Adler L, Barkley R et al (2006) The prevalence and correlates of adult ADHD in the United States: Results from the national comorbidity survey replication. *American Journal of Psychiatry*, **163**:716–23.

Kleve L, Vardal L, & Bircow Elgen I (2022) The nurse role in the management of ADHD in children and adolescent: a literature review. *Frontiers in Psychiatry:* https://doi.org/10.3389/fpsyt.2022.676528

Kolar, D, Keller, A, Golfinopoulos, M, et al (2008). *Treatment of adults with attention-deficit/hyperactivity disorder. Neuropsychiatric Disease and Treatment*, **4**:389–403.

Kollins, SH, López, FA, Vince, BD, et al (2011). *Psychomotor functioning and alertness with guanfacine extended release in subjects with attention-deficit/hyperactivity disorder. J Child Adolesc Psychopharmacol*, **21**:111–20.

Kooij, JJ, Middelkoop, HA, van Gils, K, et al (2001) The effect of stimulants on nocturnal motor activity and sleep quality in adults with ADHD: An open-label case-control study. *J Clin Psychiatry*, **62**:952–6.

Kooij SJ, Francken MH (2010) DIVA 2.*0. Diagnostic interview for ADHD in adults (DIVA). DIVA Foundation.*

Kooij, SJ, Bejerot, S, Blackwell, A, et al (2010) European consensus statement on diagnosis and treatment of adult ADHD: The European network adult ADHD. *BMC Psychiatry*, **10**:67.

Kratochvil, CJ, Newcorn, JH, Arnold, LE, et al (2005) Atomoxetine alone or combined with fluoxetine for treating ADHD with comorbid depressive or anxiety symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry*, **44**:915–24.

Larsson, H, Chang, Z, D'Onofrio, BM, et al (2014) The heritability of clinically diagnoses attention deficit hyperactivity disorder across the lifespan. *Psychol Med*, **44(10)**:2223–29.

La Malfa G, Lassi S, Bertelli M et al (2008) Detecting attention-deficit/hyperactivity disorder (ADHD) in adults with intellectual disability: The use of Conner's adult ADHD rating scales (CAARS). *Research in Developmental Disabilities*, **29**:158–64.

Lecendreux M, Konofal E, Bouvard M et al (2000) Sleep and alertness in children with ADHD. *J Child Psychol Psychiatry*, **41**:803–12.

Lichtenstein P, Halldner L, Zetterqvist J, et al (2012) Medication for attention deficit-hyperactivity disorder and

criminality. *New England Journal of Medicine*, **367**: 2006–14.

Linnet KM, Wisborg K, Agerbo E, et al (2006) Gestational age, birth weight, and the risk of hyperkinetic disorder. *Arch Dis Child*, **91**:655–60.

Loch P & Macgregor G (2017) Dealing with adult ADHD when managing performance. *The Journal of the Law Society of Scotland,* **62**(9): https://www.lawscot.org.uk/members/journal/issues/vol-62-issue-09/adult-adhd-a-performance-management-issue/

Lu et al (2017) Association between medication use and performance on higher education entrance tests in individuals with attention-deficit/hyperactivity disorder. *JAMA Psychiatry*, **74**:815–22.

McCarthy J, Kooij SJ, Francken MH et al (2017) Diagnostic interview for ADHD in adults with intellectual disability (DIVA-5-ID). *Journal of Mental Health Research in Intellectual Disabilities 10:sup1. DOI:10.1080/19315864.2017 .1368259*

McCarthy S, Asherson P, Coghill D et al (2009) Attention-deficit hyperactivity disorder: Treatment discontinuation in adolescents and young adults. *British Journal of Psychiatry*, **194**:273–7.

Mehta TR, Gurung P, Nene Y et al (2019) Sleep and ADHD: A review article. *Curr Dev Disord Rep 6:228–34.*

Mokrova I, O'Brien M, Calkins S et al (2010) Parental ADHD symptomology and ineffective parenting: The connecting link of home chaos. *Parenting*, **10(2)**:119–35. DOI: 10.1080/15295190903212844

Moran N & Robertson A. The emerging role of occupational therapy for adults with ADHD: the impact of a pilot group intervention (SPARKS) upon health-related quality of life. https://nhsscotlandevents.com/sites/default/files/PC-35-1555505077.pdf

Morgenthaler T, Owens J, Alessi C, et al (2006) Practice parameters for behavioural treatment of bedtime problems and night waking in infants and young children. *Sleep.2006*, **29**:1277–81.

Morgenthaler, TI, Kapur, VK, Brown, T, et al (2007). *Practice parameters for the treatment of narcolepsy and other hypersomnias of central origin. Sleep*, **30**:1705–11.

Müller-Sedgwick, U & Sedgwick-Müller, J, Drugs to treat attention deficit hyperactivity disorder (ADHD), chapter 13 https://www.cambridge.org/core

Murphy, K, Barkley, RA (1996) Attention deficit hyperactivity disorder adults: Comorbidities and adaptive impairments. *Comprehensive Psychiatry*, **37**:393–401.

National Autism Implementation Team (NAIT) (2021) Adult neurodevelopmental pathway-feasibility study report. https://www.thirdspace.scot/nait/.

Neece CL, Baker BL, Blacher J & Crnic, KA (2011). *Attention-deficit/hyperactivity disorder among children with and without intellectual disability: An examination across time. J of Intellect Disabil Res*, **55(7)**:623–35.

Newcorn, JH, Kratochvil, CJ, Allen, AJ, et al (2008) Atomoxetine and osmotically released methylphenidate for the treatment of attention deficit hyperactivity disorder: Acute comparison and differential response. *Am J Psychiatry*, **165**:721–30.

NHS Quality Improvement Scotland (2008) ADHD services over Scotland: Report of the implementation review exercise. *NHS Quality Improvement Scotland.*

NICE (2018) Attention deficit hyperactivity disorder: Diagnosis and management (NG87). National Institute for Health and Care Excellence. https://www.nice.org.uk/guidance/ng87

Nörby U, Winbladh B & Källén K (2017) Perinatal outcomes after treatment with ADHD medication during pregnancy. *Pediatrics*, **140(6).**

Nowicki, Z, Grabowski, K, Cubała, WJ, et al.*(2016). Prevalence of self-reported insomnia in general population of Poland. Psychiatr Pol*, **50(1)**:165–73.

Nutt DJ, Fone K, Asherson P et al (2007) Evidence-based guidelines for management of attention-deficit/hyperactivity disorder in adolescents in transition to adult services and in adults: Recommendations from the British Association for Psychopharmacology. *Journal of Psychopharmacology*, **21**:10–41.

O'Brien G (2000) Learning disability. *In Developmental Disability and Behaviour Clinics in Developmental Medicine*, **149**:12–26. Mac Keith Press, London.

Polanczyk G de Lima, MS Horta BL et al (2007) The worldwide prevalence of ADHD: A systematic review and metaregression analysis. *American Journal of Psychiatry*, **164**:942–8.

Quinn PO & Madhoo M (2014) A review of attention-deficit/hyperactivity disorder in women and girls: Uncovering this hidden diagnosis. *Prim Care Companion CNS Disord*, **16(3).**

Reilly, C & Holland, N (2001) Symptoms of attention deficit hyperactivity disorder in children and adults with intellectual disability: A review. *J of Applied Research in Intellectual Disabilities*, **24**:291–309.

Robison RJ, Reimherr F, Marchant MS et al (2008) Gender differences in 2 clinical trials of adults with attention-deficit/hyperactivity disorder: A retrospective data analysis. *J Clin Psychiatry*, **69**:213– 17.

Rösler M, Retz W, Thome J et al (2006) Psychopathological rating scales for diagnostic use in adults with attention-deficit/hyperactivity disorder (ADHD) European Archives of Psychiatry and Clinical Neuroscience, **256(Suppl 1):i3–11**.

Royal College of Psychiatrists (2017) Use of licenced medications for unlicensed applications in psychiatric practice (2nd Edition) (CR210): https://www.rcpsych.ac.uk/docs/default-source/improving-care/better-mh-policy/college-reports/college-report-cr210.pdf?sfvrsn=60c7f2d_2

Royal College of Psychiatrists (2013) A competency based curriculum for specialist core training in psychiatry: Core training in psychiatry CT1–CT3.

Royal College of Psychiatrists (2001) DC-ID. *Diagnostic criteria for psychiatric disorders for use with adults with learning disabilities/mental retardation. Gaskell Press. London.*

Royal College of Psychiatrists in Scotland, Addressing the Balance (2012) Adults with ADHD – An inconvenient truth. *Royal College of Psychiatrists.*

Royal College of Psychiatrists (2021) Attention deficit hyperactivity disorder (ADHD) in adults with intellectual disability CR230, Feb 2021.

Rucklidge JJ, Tannock R (2001) Psychiatric, psychosocial, and cognitive functioning of female adolescents with ADHD. *J Am Acad Child Adolesc Psychiatry*, **40**:530–540.

Rusting, R (2018) Decoding the overlap between autism and ADHD: https://www.spectrumnews.org/features/deep-dive/decoding-overlap-autism-adhd/)

Sangal RB, Owens J, Allen AJ, et al (2006) Effects of atomoxetine and methylphenidate on sleep in children with ADHD. *Sleep*, 29:1573–85.

Scottish Government (2012) Mental health strategy for Scotland: 2012–2015.

Scottish ADHD Coalition (2018) An employer's guide to ADHD in the workplace: https://www.scottishadhdcoalition.org/adhd-and-employment/

Seager MC & O'Brien G (2003) ADHD and learning disability. *Journal of Intellectual Disability Research. 47(Suppl.1):26–31.*

Simon V, Cozobor P, Bálint S, et al (2009) Prevalence and correlates of adult attention deficit hyperactivity disorder: Metaanalysis. *Br J Psychiatry*, **194**:204–11.

Simonoff E, Pickles A, Charman T et al (2008) Psychiatric disorders in children with autism spectrum disorders: Prevalence, comorbidity, and associated factors in a population-derived sample. *Journal of the American Academy of Child & Adolescent Psychiatry*, **47(8)**:921–29.

Simonoff, E, Taylor, E, Baird, G, et al (2013) Randomized controlled double-blind trial of optimal dose methylphenidate in children and adolescents with severe attention deficit hyperactivity disorder and intellectual disability. *Journal of Child Psychology and Psychiatry*, **54**:527–35.

Skirrow C, McLoughlin G, Kuntsi J et al (2009) Behavioral, neurocognitive and treatment overlap between attention-deficit/hyperactivity disorder and mood instability. *Expert Review of Neurotherapeutics*, **9**:489–503.

Steer J (2021) Understanding ADHD in girls and women. *Jessica Kingsley Publishers*

Stroop JR (1935) Studies of interference in serial verbal reactions, J. *Exp. Psychology*, **18**:643–662.

Sung V, Hiscock H, Sciberras E et al (2008) Sleep problems in children with attention-deficit/hyperactivity disorder: Prevalence and the effect on the child and family. *Arch Pediatr Adolesc Med*, **162(4)**:336–42.

Tan M & Appleton R (2005) Attention deficit and hyperactivity disorder, methylphenidate, and epilepsy. *Arch Dis Child*, **90**:57-59.

Vingilis E, Erickson PG, Toplak ME et al (2015) Attention deficit hyperactivity disorder symptoms, comorbidities, substance use, and social outcomes among men and women in a Canadian sample. *Biomed Res Int 2015:982072.*

Wajszilber D, Santiseban, JA & Gruber R (2018) Sleep disorders in patients with ADHD: Impact and management challenges. *Nat Sci Sleep*, **10**:453–80.

Ward MF, Wender PH, Reimherr FW (1993) The Wender Utah rating scale: An aid in the retrospective diagnosis of childhood attention deficit hyperactivity disorder. *American Journal of Psychiatry*, **150**:885–90.

Wechsler D (2008) Wechsler adult intelligence scale – Fourth edition (WAIS-IV). *Pearson Clinical.*

Weiss MD, Wasdell, MB, Bomben, MM, et al (2006) Sleep hygiene and melatonin treatment for children and adolescents with ADHD and initial insomnia. *J Am Acad Child Adolesc Psychiatry*, **45**:512–519.

Weiss MD, Brooks BL, Iverson GL et al (2007) Reliability and validity of the Weiss functional impairment rating scale. *World Psychiatric Association Shanghai Regional Meeting and CSP Annual Congress. Shanghai; China.*

Wilens, TE, Adler, LA, Adams, J, et al (2016) Misuse and diversion of stimulants prescribed for ADHD: A systematic review of the literature. *Journal of the American Academy of Child and Adolescent Psychiatry*, **47**:21–31.

World Health Organization (2018) WHO disability assessment schedule 2.0 (WHODAS 2.0) https://www.who.int/classifications/icf/whodasii/en/

Young S, Murphy CM, Coghill D (2011a) Avoiding the 'twilight zone': Recommendations for the transition of services from adolescence to adulthood for young people with ADHD. *BMC Psychiatry*, **11**:174.

Young S, Adamou M, Bolea B, et al (2011b) The identification and management of ADHD offenders within the criminal justice system: A consensus statement from the UK adult ADHD Network and criminal justice agencies. *BMC Psychiatry*, **11**:32.

Young, S & Bramham, J (2012) Cognitive-behavioural therapy for ADHD in adolescents and adults: A psychological guide to Practice (2nd edition). Wiley-Blackwell.

Young, S (2016) ACE+ A diagnostic interview of ADHD in adults. http://www.psychology-services.uk.com/getfile.php?type=resources&id=ACEPLUS_English.pdf

Xenitidis, K, Paliokosta, E, Rose, E, et al (2010) ADHD symptom presentation and trajectory in adults with borderline and midi intellectual disability. *Journal of Intellectual Disability Research*, **54(7)**:668–77.

20. Appendices

Appendix 1. Transition guidance

Attention deficit hyperactivity disorder (ADHD): Guidance for transition from child and adolescent services to adult services

Background

ADHD is the term most commonly used to cover a group of common, chronic behavioural disorders characterised by persistent, pervasive and disabling levels of restlessness and overactivity (usually combined with impulsiveness) and/or inattention, beyond developmental norms. DSM-IV identifies three subtypes of ADHD. ICD-10 describes hyperkinetic disorder (HKD) which is similar to the most severe form of ADHD in DSM-IV. However, the term "ADHD" is commonly used in the UK even by specialists; therefore it will be used in this paper.

ADHD Services for under-18s have developed in Scotland over the last 15–20 years but there is a lack of service provision for over-18s with ADHD (Healthcare Improvement Scotland, 2012). This is of concern because:

a. those already identified and receiving treatment in childhood often need continuing care and

b. there are many adults whose ADHD has not been yet been identified or its symptomatology has been misdiagnosed (Nutt et al,2007) leading to this group not accessing potentially beneficial treatments.

Longitudinal studies of ADHD show continuing decline of symptoms with age but about half of adults who had a childhood diagnosis of ADHD still experience functional impairment (Coghill, Rohde & Banaschewski, 2008). Clearly, services for the assessment and treatment of adults with ADHD need to be developed (Royal College of Psychiatrists in Scotland and Addressing the Balance, 2012).

The Mental Health Strategy for Scotland (2012) acknowledges the need to develop appropriate specialist capability for diagnosis and treatment of neurodevelopmental disorders within adult services. The TRACK study findings (Singh et al, 2010) highlight that young people with neurodevelopmental disorders such as ADHD are more likely to fall through the CAMHS–AMHS gap and that transition arrangements are noted to be more complex for this group. This paper focuses on transition arrangements for those already receiving input from child and adolescent services and who require continuing specialist input beyond their 18th birthday.

Data

The prevalence of ADHD in school-age children and young people is approximately 5% and of the most severe form of ADHD (i.e. HKD) is approximately 1–2% (Polanczyk et al, 2007). However the actual number of young people given a diagnosis of ADHD in Scotland is much less than this. Healthcare Improvement Scotland (2012) reported that only 0.6% of children and adolescents were receiving treatment for ADHD, furthermore the range between NHS Boards was from 0.21%–1.17% in 2011–12. In the same year, information services division (ISD) data showed that 0.6% of under 18s in Scotland were receiving medication licensed for treatment of ADHD – again, with a variation in rates between NHS Boards. It is highly likely that the 0.6% receiving treatment have the more severe form of ADHD and are more likely to need ongoing treatment into adulthood. ISD have also described a significant upward trend in the number of prescriptions provided for ADHD medications in recent years with a 7.1% increase in the period 2010/11 to 2011/12 for both under and over 18s. This also highlights an increasing number of young adults taking medication for ADHD who may require continued care over the age of 18 years.

Services for adults with ADHD in transition

Healthcare Improvement Scotland found that transition arrangements to adult mental health services (AMHs) were on a case-by-case basis and that there were no established dedicated ADHD services within AMHs. Some NHS Boards reported that shared care protocols were being developed with GPs.

Key clinical issues in providing an effective service for the diagnosis and management of ADHD in young people in transition are:

- **Ensuring that appropriate referral pathways are in place** for young people, to support a smooth transition between CAMHS or paediatric services and adult services (including adult mental health services, substance misuse services and primary care).

- **Ensuring offender management services** have appropriate referral pathways for young people.

- **Providing effective and efficient clinical care** in line with NICE clinical guideline CG72 on ADHD and ensuring appropriate treatment of comorbid psychiatric disorders.

- **Ensuring that the service is integrated** with other health and social services for young people and adults with ADHD.

- **Ensuring responsive engagement with the third sector**.

- **Providing the best possible outcomes** for individual people/patients, their carers and local communities.

- **Providing a quality assured service**.

Service components

The NICE clinical guideline on ADHD (2008) recommends that young people with ADHD receiving treatment and care from CAMHS or paediatric services should normally be transferred to adult services if they continue to have significant symptoms of ADHD and/or coexisting conditions that require treatment. Health boards should ensure that referral criteria are agreed between CAMHS/paediatrics and AMH for cases accepted through a transition protocol. The role of primary care for ongoing monitoring and prescribing should be clear with recommendations of situations, such as complex comorbidity, when adult mental health services should be consulted. Local agreements with GPs and AMH services will vary.

Transition should be planned by both referring and receiving services. An assessment to establish the need for continuing treatment into adulthood should be carried out. Flexibility in the timing of transition is important. The precise timing of arrangements may vary locally but should usually be completed by the time the young person is 18 years old. Transition arrangements should normally include:

- the involvement of the young person and when appropriate the parent or carer in the planning (see Table 1)
- provision of information about adult services to the young person
- details of the anticipated treatment and services that the young person will require
- for more complex cases: consideration of a planning meeting involving paediatric or CAMH services and AMH services and/or a joint appointment.

Developing a high-quality service for management of ADHD in adults specifically with respect to young people in transition

To deliver an effective service to young people beyond the age of 18 years NHS Boards will need to formalise arrangements for the management of adults with ADHD. This can be achieved through the development of local care pathways addressing adequate transition planning, good information transfer across teams, joint working between teams and continuity of care following transition. Appropriate training for multidisciplinary staff in mental health services and for GPs must be made available to achieve this. Shared care protocols between secondary and primary care would facilitate this process.

Table 5 – Transition of young people with ADHD to adult services

Key points regarding pathway

- Identify young person over the age of 17 who is likely to benefit from continued medication and contact with services when they reach the age of 18
- Alert adult services about the young person with a written referral (specifying the reason for referral) and case summary. For complex cases consider a joint meeting between adult and child services

Case summary should have clarity regarding:

- The clinical evidence/grounds for diagnosis of ADHD including details of assessment, e.g. results of questionnaires and school assessment
- Interventions to date (pharmacology; psychological; educational)
- Degree of engagement of young person (+/- parent(s)/carer(s)) in treatment and follow up
- Preferred clinic location (if there is a choice)
- Preferred system with respect to whom appointment letters should be addressed, e.g. to the individual alone; the individual plus parent(s)/carer(s)
- Details of the anticipated treatment and services that the young person will require
- Current symptoms of ADHD and associated social, academic and family impairments; how stable/ unstable the individual is on treatment and predictions regarding future crises/challenges
    - The context of the young person with regard to:
    - education/employment
    - current social circumstances, significant relationships/ supports
    - peer relationships
    - forensic history
- Quality of life/activities of daily living
- Benefits/employment status
- Driving status
- Current medication, dosage, side effects, benefits
- Medication history:
    - objective measures of improvements on medication
    - reasons for choice and change of medications
    - dates-duration on treatment, maximum dose achieved and medication-free periods
- Comorbid conditions including drug or alcohol misuse
- Specific learning difficulties (of note a formal diagnosis of learning disability would mean a direct referral to the Learning Disability Service)

Acknowledgement

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References

Coghill, Rohde, Banaschewski (2008) Biological Child Psychiatry: Recent Trends and Developments. *Adv Biol Psychiatry*, **24**:1-20, https://doi.org/10/1159/000118512

Healthcare Improvement Scotland (2012) Attention deficit and hyperkinetic sisorders: Services Over Scotland. *Final report.*

National Institute for Health and Clinical Excellence (2008) Attention deficit hyperactivity disorder: diagnosis and management of ADHD in children, young people and adults (Clinical Guideline CG72). www.nice.org.uk/CG72.

National Services Scotland, Information Services Division (2011/12) Prescribing and medicines: Medicines used in mental health 2011/12.

Nutt DJ et al (2007) Evidence-based guidelines for the management of attention-deficit/hyperactivity disorders in adolescents in transit to adult services and in adults: Recommendations from the British Association for Psychopharmacology, J Psychopharmacogy http://jop.sagepub.com/cgi/content/abstract/21/1/10

Polanczyk G, Silva de Lima M, Horta BL et al (2007) The worldwide prevalence of ADHD: A systematic review and metaregression analysis. *American Journal of Psychiatry*, **164**:942–48.

Royal College of Psychiatrists and Addressing The Balance (2012) Addressing the balance. *Helping ADHD adults in Scotland.*

Scottish Government. Mental health strategy for Scotland: 2012–15. https://www.gov.scot/publications/mental-health-strategy-scotland-2012-2015/

Singh et al (2010) Transition from CAMHS to Adult Mental Health Services (TRACK): A study of service organization, policies, process and user and carer perspectives. *Report for National Institute for Health Research Service Delivery and Organization Programme.*

Appendix 2. Developmental history items

Developmental history

Pre-natal

How old was the patient's mother when the patient was born?.....

Did the patient's mother have any health problems during the pregnancy? Y N

(e.g. diabetes, pre-eclampsia)

If yes, please provide details ……..

Did the mother take any of the following substances during pregnancy?

Alcohol?	Y	N	If yes, how often……..
Caffeine?	Y	N	If yes, how often……..
Cigarettes?	Y	N	If yes, how often……..
Prescribed medication?	Y	N	If yes, what……...
Non-prescribed medication?	Y	N	If yes, what……...

Birth

At what gestation was the patient born?.....

By what method was the patient born? Normal ( ) Caesarean ( ) Forceps ( )
Induced ( ) Other ( )……..

Were there any complications with the birth? Y N

If yes, please provide details ……..

How much did the patient weigh at birth?.....

Post-natal and infancy

Did the patient have any medical problems at birth? Y N

If yes, please provide details ……..

Did the patient have to spend any time in the specialist baby unit? Y N

If yes, please provide details ……..

What was the patient temperament like as a baby, e.g. did they cry a lot/sleep well?

Easy baby ( ) Average baby ( ) Difficult baby ( )

Childhood

What age did the patient walk? ……..

What age did the patient say first words? ……

What age did the patient stop wearing nappies during the day? ……

What age did the patient stop wearing nappies during the night? ……

During childhood did the patient have problems with:

Eyesight	Y	N	Social skills	Y	N
Hearing	Y	N	Fine motor skills (handwriting, tying shoes)	Y	N
Speech	Y	N	Gross motor skills (running, riding a bike)	Y	N

Did the patient have any physical health problems during childhood? e.g. asthma, diabetes

If yes, please specify ……..

Did the patient have any of the following conditions?

Head injury	Y	N	Meningitis	Y	N
Seizures	Y	N	Ear infections	Y	N
Encephalitis	Y	N			

Did they have any serious injury requiring medication attention? Y N

If yes, please provide details ……

Did the patient ever have an injury where they lost consciousness? Y N

If yes, please provide details ……

Did the patient receive any of the following diagnosis as a child?

ADHD	Y	N	Aspergers	Y	N
Autism	Y	N	Tics	Y	N
Dyslexia	Y	N	Developmental delay	Y	N
Learning disability	Y	N			

How did the patient get on at:	**Please consider how they managed in each of the three domains and comment upon strengths and weaknesses**
Nursery	Academic
	Social
	Behavioural
Primary school	Academic
	Social
	Behavioural
Secondary school	Academic
	Social
	Behavioural

Did the patient attend mainstream schooling? Y N

If no, what sort of school did they attend? .....

Did the patient ever receive additional support at school for?

Speech and Language	Y	N
Reading and writing	Y	N
Behaviour	Y	N

Did the patient have friends at school?	Y	N
Were they able to maintain friendships at school?	Y	N
Was the patient bullied at school?	Y	N
Was the patient ever suspended from school?	Y	N
Was the patient ever expelled from school?	Y	N
Was the patient ever the subject of a Children's Panel?	Y	N

If so, for what reason? ……

What age did the patient leave school? ……

What was the highest level of examinations attained? ……

What did the patient do on leaving school?

College ( ) Job ( ) Vocational Training ( ) University ( ) Other ( )

Further reading

Kessler RC, Adler L, Barkley R et al (2006) The prevalence and correlates of adult ADHD in the United States: results from the National Comorbidity Survey Replication. *American Journal of Psychiatry*, **163**:716–23.

Kirby A & Sugden D (2007) Children with developmental coordination disorders. *Journal of the Royal Society of Medicine*, **100**:182–6.

Kjelsberg E (2006). *Exploring the link between conduct disorder in adolescence and personality disorders in adulthood. Psychiatric Times*, **xxiii**:8.

Klein RG & Mannuzza S (2010) Comorbidity in adult attention-deficit hyper-activity disorder. *Key Issues in Mental Health*, **176**:126–43.

Margari L, Buttiglione M, Craig F et al (2013) Neuropsychopathological comorbidities in learning disorders. *BMC Neurology*, **13**:198.

Miller C, Flory J, Miller S et al (2008) Childhood ADHD and the emergence of personality disorders in adolescence: A prospective follow-up study. *Journal of Clinical Psychiatry*, **69**:1477–84.

Reiersen, AM & Todd, RD (2008). *Co-occurrence of ADHD and autistic spectrum disorders: Phenomenology and treatment. Expert Review of Neurotherapeutics*, **8**:657–9.

Reiersen A, Constantiono J & Volk, H (2007) Autistic traits in a population-based ADHD twin sample. *Journal of Child Psychology and Psychiatry*, **48**:464–72.

Appendix 3. Self-help information

Support groups

UKAAN's list of support groups around the UK

Scottish ADHD coalition's list of local groups in Scotland

Adult ADHD peer support groups in Central Scotland

Self-help information

A self-help resource pack compiled by NHS Lothian

Apps

ADDitude magazine is the quarterly consumer publication about attention deficit hyperactivity disorder (ADHD), created and distributed by New Hope Media in New York, NY. It contains feature and service articles about ADD, ADHD and learning disabilities like dyslexia. A medical review panel summarised the pros and cons of these apps.

CHADD (Children and adults with attention-deficit/hyperactivity disorder) is a national non-profit organisation that improves the lives of people affected by ADHD through education, advocacy and support.

Appendix 4. Tools

Adult ADHD self-report scale (ASRS-V1.1)

Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past six months. Please give this completed checklist to your healthcare professional to discuss during today's appointments.

Part A		Never	Rarely	Sometimes	Often	Very often
1	How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?					
2	How often do you have difficulty getting things in order when you have to do a task that requires organisation?					
3	How often do you have problems remembering appointments or obligations?					
4	When you have a task that requires a lot of thought, how often do you avoid or delay getting started?					
5	How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?					
6	How often do you feel overly active and compelled to do things, as if you were driven by a motor?					

Part B		Never	Rarely	Sometimes	Often	Very often
7	How often do you make careless mistakes when you have to work on boring or difficult projects?					
8	How often do you have difficulty keeping your attention when you are doing boring or repetitive work?					
9	How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?					
10	How often do you misplace or have difficulty finding things at home or work?					
11	How often are you distracted by activity or noise around you?					
12	How often do you leave your seat in meetings or in other situations in which you are expected to stay seated?					
13	How often do you feel restless or fidgety?					
14	How often do you have difficulty unwinding and relaxing when you have time to yourself?					
15	How often do you find yourself talking too much when you are in social situations?					
16	When you are in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish it themselves?					
17	How often do you have difficulty waiting your turn in situations where turn taking is required?					
18	How often do you interrupt others when they are busy?					

Childhood behaviour scale – self-report

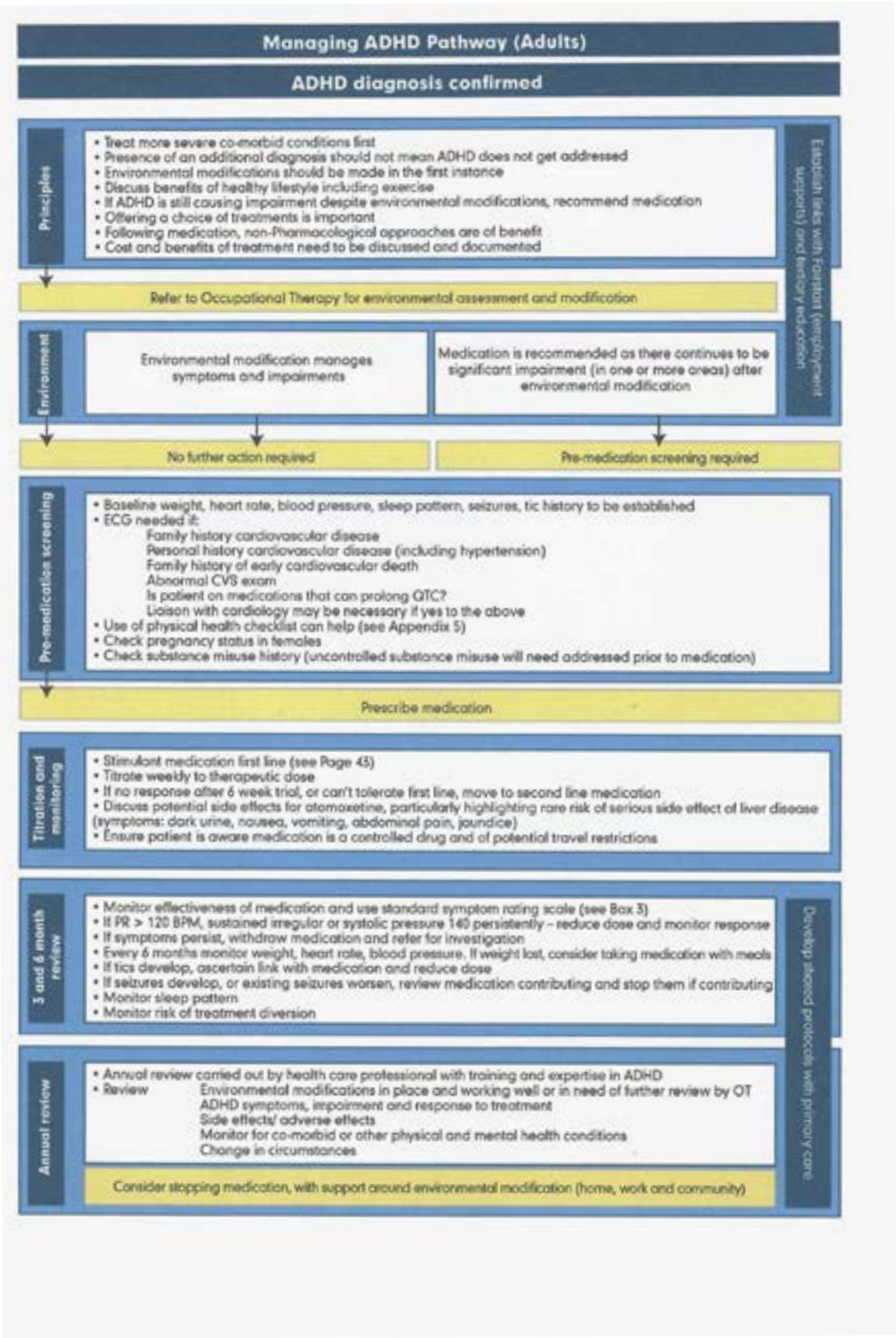
Please circle the number next to each item that best describes your behaviour when you were a child. PLEASE RATE YOUR BEHAVIOUR BETWEEN 7 and 12 YEARS OF AGE.

Items		Never or rarely	Sometimes	Often	Very often
1	Failed to give close attention to details or made careless mistakes in my work	0	1	2	3
2	Fidgeted with hands or feet or squirmed in seat	0	1	2	3
3	Had difficulty sustaining my attention in tasks or fun activities	0	1	2	3
4	Left my seat in classroom or other situations in which sitting was expected	0	1	2	3
5	Didn't listen when spoken to directly	0	1	2	3
6	Restless in the 'squirmy' sense	0	1	2	3
7	Didn't follow through on instructions and failed to finish work	0	1	2	3
8	Had difficulty engaging in leisure activities or doing fun things quietly	0	1	2	3
9	Had difficulty organising tasks and activities	0	1	2	3
10	Felt 'on the go' or acted as if 'driven by a motor'	0	1	2	3
11	Avoided, disliked or was reluctant to engage in work that required sustained mental effort	0	1	2	3
12	Talked excessively	0	1	2	3
13	Lost things necessary for tasks or activities	0	1	2	3
14	Blurted out answers before questions had been completed	0	1	2	3
15	Easily distracted	0	1	2	3
16	Had difficulty awaiting turn	0	1	2	3
17	Forgetful in daily activities	0	1	2	3
18	Interrupted or intruded on others	0	1	2	3

To what extent did the problems you may have circled on the previous page interfere with your ability to function in each of these areas of life activities when you were a child between 7 and 12 years of age?

Areas:	Never or rarely	Sometimes	Often	Very often
In your home life with your immediate family	0	1	2	3
In your social interactions with other children	0	1	2	3
In your activities or dealings in the community	0	1	2	3
In school	0	1	2	3
In sports, clubs or other organisations	0	1	2	3
In learning to take care of yourself	0	1	2	3
In your play, leisure or recreational activities	0	1	2	3
In your handling of your daily chores or other responsibilities	0	1	2	3

The scale ranges from 0 = never exhibiting the behaviour to 3 = occurs up to several times an hour/day. The higher the score the more likely that there are symptoms of ADHD and therefore likely to benefit from a proper diagnostic assessment. These scales are not diagnostic but merely to help with screening assessments.


Managing ADHD Pathway (Adults)
ADHD diagnosis confirmed
Principles
• Treat more severe co-morbid conditions first
• Presence of an additional diagnosis should not mean ADHD does not get addressed
• Environmental modifications should be made in the first instance
• Discuss benefits of healthy lifestyle including exercise
• If ADHD is still causing impairment despite environmental modifications, recommend medication
• Offering a choice of treatments is important
• Following medication, non-Pharmacological approaches are of benefit
• Cost and benefits of treatment need to be discussed and documented
Establish links with Tusla and (employment supports) and tertiary education
Refer to Occupational Therapy for environmental assessment and modification
Environment
Environmental modification manages symptoms and impairments
Medication is recommended as there continues to be significant impairment (in one or more areas) after environmental modification
No further action required
Pre-medication screening required
Pre-medication screening
• Baseline weight, heart rate, blood pressure, sleep pattern, seizures, tic history to be established
• ECG needed if:
Family history cardiovascular disease
Personal history cardiovascular disease (including hypertension)
Family history of early cardiovascular death
Abnormal CVS exam
Is patient on medications that can prolong QTC?
Liaison with cardiology may be necessary if yes to the above
• Use of physical health checklist can help (see Appendix 5)
• Check pregnancy status in females
• Check substance misuse history (uncontrolled substance misuse will need addressed prior to medication)
Prescribe medication
Titration and monitoring
• Stimulant medication first line (see Page 43)
• Titrate weekly to therapeutic dose
• If no response after 6 week trial, or can't tolerate first line, move to second line medication
• Discuss potential side effects for atomoxetine, particularly highlighting rare risk of serious side effect of liver disease (symptoms: dark urine, nausea, vomiting, abdominal pain, jaundice)
• Ensure patient is aware medication is a controlled drug and of potential travel restrictions
3 and 6 month review
• Monitor effectiveness of medication and use standard symptom rating scale (see Box 3)
• If PR > 120 BPM, sustained irregular or systolic pressure 140 persistently – reduce dose and monitor response
• If symptoms persist, withdraw medication and refer for investigation
• Every 6 months monitor weight, heart rate, blood pressure. If weight lost, consider taking medication with meals
• If tics develop, ascertain link with medication and reduce dose
• If seizures develop, or existing seizures worsen, review medication contributing and stop them if contributing
• Monitor sleep pattern
• Monitor risk of treatment diversion
Develop shared protocols with primary care
Annual review
• Annual review carried out by health care professional with training and expertise in ADHD
• Review
Environmental modifications in place and working well or in need of further review by OT
ADHD symptoms, impairment and response to treatment
Side effects/ adverse effects
Monitor for co-morbid or other physical and mental health conditions
Change in circumstances
Consider stopping medication, with support around environmental modification (home, work and community)

Current behaviour scale – self-report

Instructions Please circle the number next to each item that best describes your behaviour DURING THE PAST SIX MONTHS

Items		Never or rarely	Sometimes	Often	Very often
1	Fail to give close attention to details or make careless mistakes in my work	0	1	2	3
2	Fidget with hands or feet or squirm in seat	0	1	2	3
3	Have difficulty sustaining my attention in tasks or fun activities	0	1	2	3
4	Leave my seat in situations in which sitting is expected	0	1	2	3
5	Don't listen when spoken to directly	0	1	2	3
6	Feel restless	0	1	2	3
7	Don't follow through on instructions and fail to finish work	0	1	2	3
8	Have difficulty engaging in leisure activities or doing fun things quietly	0	1	2	3
9	Have difficulty organising tasks and activities	0	1	2	3
10	Feel 'on the go' or 'driven by a motor'	0	1	2	3
11	Avoid, dislike or reluctant to engage in work that requires sustained mental effort	0	1	2	3
12	Talk excessively	0	1	2	3
13	Lose things necessary for tasks or activities	0	1	2	3
14	Blurt out answers before questions have been completed	0	1	2	3
15	Easily distracted	0	1	2	3
16	Have difficulty awaiting turn	0	1	2	3
17	Forgetful in daily activities	0	1	2	3
18	Interrupt or intrude on others	0	1	2	3

If you indicated that you experienced any of the problems with attention, concentration, impulsiveness or hyperactivity on the first page, please fill in the blank below indicating as precisely as you can recall at what age these problems began to occur for you:

I was approximately _____ years old.

To what extent do the problems you may have circled on the previous page interfere with your ability to function in each of these areas of life activities?

Areas	Never or rarely	Sometimes	Often	Very often
In your home life with your immediate family	0	1	2	3
In your work or occupation	0	1	2	3
In your social interactions with others	0	1	2	3
In your activities or dealings in the community	0	1	2	3
In any educational activities	0	1	2	3
In your dating or marital relationship	0	1	2	3
In your management of money	0	1	2	3
In your driving of a motor vehicle	0	1	2	3
In your leisure or recreational activities	0	1	2	3
In your management of your daily responsibilities	0	1	2	3

The scale refers to 0 = never exhibiting the behaviour to 3 = occurs up to several times an hour/day. The higher the score the more likely that there are symptoms of ADHD and therefore likely to benefit from a proper diagnostic assessment. These scales are not diagnostic but merely to help with screening assessments.

Childhood behaviour scale – parent report

Instructions

Please circle the number next to each item that best describes the behaviour of your son or daughter when he or she was a child.

PLEASE RATE BEHAVIOUR AT AGE SEVEN

Items		Never or rarely	Sometimes	Often	Very often
1	Failed to give close attention to details or made careless mistakes in work	0	1	2	3
2	Fidgeted with hands or feet or squirmed in seat	0	1	2	3
3	Had difficulty sustaining attention in tasks or fun activities	0	1	2	3
4	Left seat in classroom or other situations in which sitting was expected	0	1	2	3
5	Didn't listen when spoken to directly	0	1	2	3
6	Restless in the 'squirmy' sense	0	1	2	3
7	Didn't follow through on instructions and failed to finish work	0	1	2	3
8	Had difficulty engaging in leisure activities or doing fun things quietly	0	1	2	3
9	Had difficulty organising tasks and activities	0	1	2	3
10	Was 'on the go all the time' or acted as if 'driven by a motor'	0	1	2	3
11	Avoided, disliked or was reluctant to engage in work that required sustained mental effort	0	1	2	3
12	Talked excessively	0	1	2	3
13	Lost things necessary for tasks or activities	0	1	2	3
14	Blurted out answers before questions had been completed	0	1	2	3
15	Easily distracted	0	1	2	3
16	Had difficulty awaiting turn	0	1	2	3
17	Forgetful in daily activities	0	1	2	3
18	Interrupted or intruded on others	0	1	2	3

To what extent did the problems you may have circled on the previous page interfere with their ability to function in each of these areas of life activities, when she or he was a child between 7 and 12 years of age?

Areas	Never or rarely	Sometimes	Often	Very Often
In his/her home life with immediate family	0	1	2	3
In his/her social interactions with other children	0	1	2	3
In his/her activities or dealings in the community	0	1	2	3
In school	0	1	2	3
In sports, clubs or other organisations	0	1	2	3
In learning to take care of themselves	0	1	2	3
In his/her play, leisure or recreational activities	0	1	2	3
In his/her handling of daily chores or other responsibilities	0	1	2	3

Again, please circle the number next to each item that best describes behaviour WHEN SHE/HE WAS BETWEEN 7 and 12 YEARS OF AGE

Items		Never or rarely	Sometimes	Often	Very often
1	Lost temper	0	1	2	3
2	Argued with adults	0	1	2	3
3	Actively defied or refused to comply with adults' requests or rules	0	1	2	3
4	Deliberately annoyed people	0	1	2	3
5	Blamed others for their mistakes or misbehaviour	0	1	2	3
6	Was touchy or easily annoyed by others	0	1	2	3
7	Was angry or resentful	0	1	2	3
8	Was spiteful or vindictive	0	1	2	3
9	Moods up and down	0	1	2	3
10	Easily frustrated at errors	0	1	2	3
11	Cried often and easily	0	1	2	3
12	Mood changed quickly and drastically	0	1	2	3
13	Hot or short tempered	0	1	2	3
14	Temper outbursts, explosive and unpredictable behaviour	0	1	2	3

The scale refers to 0 = never exhibiting the behaviour to 3 = occurs up to several times an hour/day. The higher the score the more likely that there are symptoms of ADHD and therefore likely to benefit from a proper diagnostic assessment. These scales are not diagnostic but merely to help with screening assessments.

Current behaviour scale – partner report

Instructions: Please circle the number next to each item that best describes your partner's behaviour DURING THE PAST SIX MONTHS

Items		Never or rarely	Sometimes	Often	Very often
1	Fails to give close attention to details or make careless mistakes in work	0	1	2	3
2	Fidgets with hands or feet or squirm in seat	0	1	2	3
3	Has difficulty sustaining attention in tasks or fun activities	0	1	2	3
4	Leaves seat in situations in which sitting is expected	0	1	2	3
5	Appears not to listen when spoken to directly	0	1	2	3
6	Appears restless	0	1	2	3
7	Does not follow through on instructions and fails to finish work	0	1	2	3
8	Has difficulty engaging in leisure activities or doing fun things quietly	0	1	2	3
9	Has difficulty organising tasks and activities	0	1	2	3
10	Appears to be 'on the go all the time' or as if 'driven by a motor'	0	1	2	3
11	Avoids, dislikes or is reluctant to engage in work that requires sustained mental effort	0	1	2	3
12	Talk excessively	0	1	2	3
13	Loses things necessary for tasks or activities	0	1	2	3
14	Blurts out answers before questions have been completed	0	1	2	3
15	Easily distracted	0	1	2	3
16	Has difficulty awaiting turn	0	1	2	3
17	Forgetful in daily activities	0	1	2	3
18	Interrupts or intrude on others	0	1	2	3

To what extent do the problems you may have circled on the previous page interfere with your partner's ability to function in each of these areas of life activities?

Areas	Never or rarely	Sometimes	Often	Very often
In his/her home life with immediate family	0	1	2	3
In his/her work or occupation	0	1	2	3
In his/her social interactions with others	0	1	2	3
In his/her activities or dealings in the community	0	1	2	3
In any educational activities	0	1	2	3
In your dating or marital relationship	0	1	2	3
In his/her management of money	0	1	2	3
In his/her ability to drive a motor vehicle	0	1	2	3
In his/her leisure or recreational activities	0	1	2	3
In his/her management of daily responsibilities	0	1	2	3

The scale refers to 0 = never exhibiting the behaviour to 3 = occurs up to several times an hour/day. The higher the score the more likely that there are symptoms of ADHD and therefore likely to benefit from a proper diagnostic assessment. These scales are not diagnostic but merely to help with screening assessments.

Medical assessment tool for adults with ADHD

Have you ever been told by a doctor that you have heart disease?	
Do you ever get chest pain on exertion?	
Have you ever passed out or fainted whilst exercising?	
Has anyone in your family developed heart disease before the age of 60?	
Has anyone in your family died of heart disease before the age of 60?	
Do you know if you have high blood pressure or an increased cholesterol	
Have you ever had problems with tics/twitches?	
Have you ever had any fits or seizures?	
BP/pulse – is it regular?	
Weight	
Physical examination (Done by GP)	
ECG, ECHO and 24 hr BP if indicated	

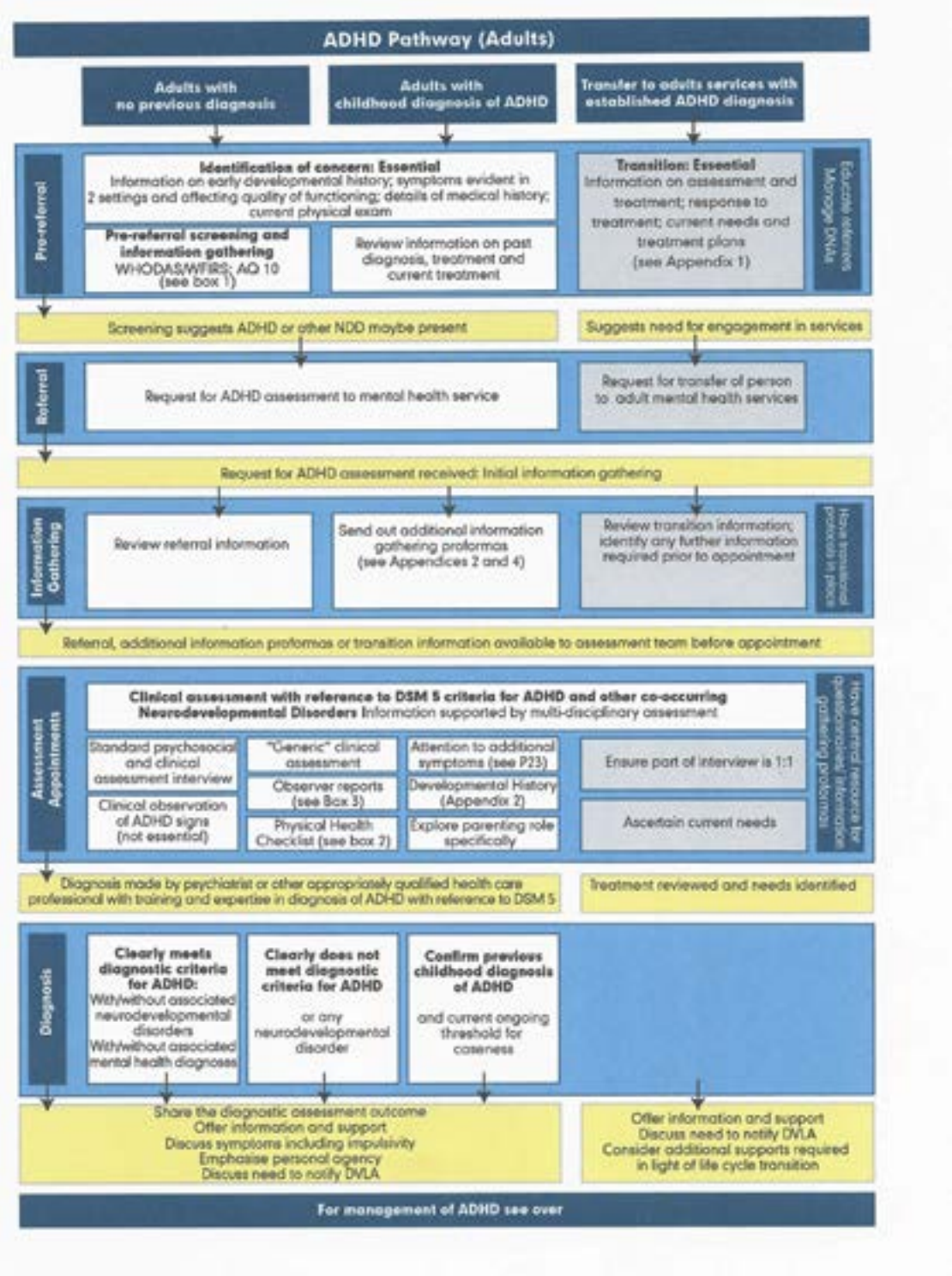
Monitoring treatment in ADHD

Name:		Date		
Physical health check				
Medication: Dose:		BP: Pulse: Weight:		
Side effect rating scale				
Side effect	Frequency			
	Not at all	Sometimes	Often	Very often
Headache				
Dizziness				
Nausea				
Vomiting				
Sweating				
Loss of appetite				
Sexual dysfunction				
Weight loss				
Diarrhoea				
Tics				
Sleep difficulties				
Mood instability				
Agitation				
Sadness				
Palpitations				
Other				

Appendix 5. ADHD pathway diagram

Authors

This document (August 2020) was completed by Dr Marie Boilson and Dr Prem Shah, as part of their role responsibilities of the Scottish Government funded NAIT team, which is focused on diagnostic pathways.



Appendix 6. Template letters supporting reasonable adjustments in the workplace

(provided by Susan Prior, National Autism Implementation Team)

Dear

Subject: Reasonable Adjustment Request

I am writing to ask for reasonable adjustments to my work arrangements. I want to be able to do my job to the best of my abilities; these changes will support me to do my job well.

I have recently been diagnosed with ADHD (Attention deficit hyperactivity disorder). My ADHD can lead to significant difficulties including inattention, impulsivity and hyperactivity. With appropriate support I am able to manage these difficulties. I hope you would be willing to support me in minor reasonable adjustments at work, I would be happy to discuss these changes and how they could be accommodated.

Outline reasonable adjustments you feel would support you in your workplace here (see examples below)

I believe that as a disabled person, under the Equality Act 2010 I am entitled to the reasonable adjustments I have requested.

I would be happy to discuss this request in more detail but I would like a written response within 14 days.

Yours sincerely,

Avoiding distractions:

- working in a quiet area
- desk facing away from particularly busy areas
- room divider to limit distractions
- using headphones to muffle sounds
- a Do Not Disturb sign
- agreed timetable when I will not be distracted
- working at home (full time/part time/for particular tasks)
- use answer phone, regularly reviewed rather than respond to phone calls immediately.

Supporting effective working patterns:

- a whiteboard above my desk to use as a timetable and planner with all tasks
- an agreement that emails and phone messages will be reviewed at set times only
- taking regular movement breaks
- focusing on single task for short, regular periods with breaks
- using a timer to manage daily schedule
- access to a quiet space to assist in managing stress
- regular breaks to go for a walk outside
- alter working hours.

Instructions and feedback:

- written information with tasks
- agree checklists for complex tasks
- work is allocated by structured email which includes detailed instruction and deadline
- written minutes of meetings with clear records of agreements
- use a digital recorder in meetings and then write detailed notes of what was agreed
- clear plans for working day/week/month
- regular supervision and constructive feedback on performance.

Collaboration with team members:

- allocation of work tasks which reflect skills – identify tasks you do well and not so well, can allocation of task ensure skills are utilised
- an identified colleague to act as work mentor who could assist in
  - time management
  - structuring work tasks
  - feedback on performance