Attention deficit hyperactivity disorder (ADHD) is among the most common childhood psychiatric disorders, affecting about 5% of children. Until recently the disorder was considered to be resolved during adolescence. But current evidence indicates that in many, or perhaps the majority, of cases ADHD persists into adult life. A meta-analysis of longitudinal follow-up studies indicates that impairing levels of ADHD symptoms persist into adulthood in around 65% of childhood cases – affecting 2.5% of adults (Polanczyk, 2007; Simon, 2009).

The disorder is characterised by childhood-onset inattention, hyperactivity and impulsivity that are pervasive and result in significant functional impairment. The two most frequently used diagnostic terms to describe the condition in childhood are attention-deficit hyperactivity disorder (ADHD) in DSM-IV and hyperkinetic disorder (HKD) in ICD-10. Three subtypes are recognised in DSM-IV: inattentive, hyperactive/impulsive and combined. DSM–IV also has a category of ADHD in partial remission for individuals who no longer meet the full criteria but where significant impairments related to symptoms remain. ICD-10 adopts a more restricted approach as it requires both sets of symptoms to be present (combined type).

Whereas the core symptoms of hyperactivity, impulsivity and inattention are well characterised in children, these symptoms may have different and more subtle expressions in adult life. A strict usage of the childhood diagnostic criteria may be inappropriate as they do not take into account the relevant developmental changes. The lack of appropriate operational criteria for adult ADHD and the lack of awareness that it frequently persists into adult life are the main reasons leading to under-diagnosis and therefore under-treatment in adults.

Typical presenting complaints in adulthood include; difficulties with reading, attending lectures and meetings; poor organisation, time management and planning difficulties; procrastination, and frequent job changes and dismissals.

The diagnostic process for adult ADHD involves multiple steps. These include a systematic assessment of a person’s lifetime history of symptoms and impairment, a full clinical and psychosocial assessment, a detailed developmental and psychiatric history and corroborating information from relevant informants.

Psychiatric co-morbidity is very common in adult ADHD and the differential diagnosis needs to take this into account. In adults with ADHD, anxiety and depressive disorders and sleep and personality disorders are common, as are learning disabilities and other neurodevelopmental disorders, such as autism spectrum disorders.

ADHD is also a risk factor for early onset substance misuse and criminal or delinquent behaviour. Therefore, it is important for the diagnosis of ADHD, as well as the correct targeting of treatments, to identify and evaluate the severity of co-morbidities.

Several factors have been implicated in the cause of ADHD. The prevalent current concept is that ADHD is a disorder of the brain that has multiple causes including genes, biological and psychosocial adversity and morphological brain abnormalities.

Convergent genetic, neuroimaging and neuropsychological data provide evidence for the role of multiple neurobiological abnormalities and of a potential interplay of genetic and environmental risk factors. Neuroimaging studies in adults with ADHD have revealed widespread changes in brain volume, activity, connectivity and metabolism in fronto-striatal and several other brain areas.

Family, twin, adoption and molecular genetic studies show that ADHD has a substantial genetic component with high heritability estimated to be about 0.8. Environmental factors such as pregnancy and delivery complications, poor maternal health, maternal age, long duration of labour, foetal stress and prematurity have also been identified as increasing the risk for ADHD.

ADHD in adults is becoming more widely recognised, as are the differences between it and the condition in children. Treatments are also becoming more established.

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But ADHD is treatable. The main treatments have been the stimulant drugs methylphenidate and amphetamine, which are believed to enhance neurotransmission of dopamine and norepinephrine. Non-stimulant drugs like atomoxetine have also been proven to be effective.

Psychological treatments tailored to adult needs in the form of psychoeducation, cognitive behavioural therapy and supportive coaching have all been reported as effective. Epidemiological and clinical studies have shown that adults with untreated ADHD, when compared to normal controls, experience higher rates of clinical and psychosocial impairments.

Summary of NICE guidance
The first UK clinical guideline on ADHD that covered the disorder in adulthood was published in 2007 by the British Association for Psychopharmacology (BAP) (Nutt et al., 2007). This included a consensus statement on ADHD as a neurodevelopmental condition that continued into adulthood, advice on the assessment and treatment of it, and recommendations on service provision.

This was followed in 2008 by the online publication of formal guidance from the National Institute for Health and Clinical Excellence (NICE), which was published in book form the following year (NICE, 2009). The NICE guidance is outlined below and follows similar themes to the BAP paper.

The NICE guidance began with a systematic review of the evidence for ADHD as a diagnostic construct, and its continuation into adulthood. In summary, NICE concluded that:

- Symptoms of inattention, hyperactivity and impulsivity were found to cluster together in children and adults and could be differentiated from symptom clusters of other conditions
- ADHD could be viewed as representing the extreme end of a normally distributed trait within the general population, characterised by the increased total number and severity of clinical symptoms, and the severity of the resultant impairment
- Symptoms continue into adulthood in the majority of cases. While in the majority of those individuals the number of symptoms may not continue to meet the full diagnostic criteria, they nevertheless continue to cause severe impairment. As a result it was concluded that there was evidence to support the diagnostic construct of ADHD and its continuation into adulthood. They therefore proceeded to advise on the assessment, diagnosis and treatment of ADHD in adult healthcare services and considered the service provision required to meet the needs of adults with ADHD.

NICE provided guidance on three key areas; the diagnosis, pharmacological treatment and psychological treatment of ADHD including advice specifically for adults. These areas will be considered in the context of the suggested service models and whether those services be offered within generic mental health services or by specialist ADHD or neurodevelopment clinics.

In adults with ADHD, anxiety and depressive disorders and sleep and personality disorders are common

1) Diagnostic services and specifically specialist services for the diagnosis of ADHD in adults. In terms of making a diagnosis, NICE recommends that assessment should be carried out by a specialist psychiatrist or other appropriately qualified healthcare professionals who have training and expertise in diagnosing ADHD in adults.

Diagnosis should only be made following a full clinical and psychosocial assessment, including a full developmental and psychiatric history, observer reports and assessment of the person’s mental state. In addition, a diagnosis of ADHD should only be given where the symptom count in the diagnostic criteria in DSM-IV or ICD are met and where symptoms are associated with at least moderate and pervasive impairment in two or more settings, e.g. social, familial, educational or occupational situations. NICE states that where medication is indicated, diagnostic services should initiate and monitor treatment during the titration phase. But they also recognise that prescribing can be handled from the outset by a primary care physician where a shared care protocol is established.

NICE also recognised that there would be a number of different cohorts with different needs; those that had been diagnosed and treated for ADHD by child or adolescent services, who continued on treatment and were looking to transition into adult services; those diagnosed in childhood but who had not maintained contact with services, and those adults who had never been diagnosed previously.

While recommending a psychiatric evaluation by a specialist in adult mental health with the training to diagnose and advise on treatment for ADHD for all three groups, a full psychiatric evaluation may not be required for those that have been previously diagnosed and stably maintained on treatment, as they require no further intervention apart from a follow-up service for drug monitoring.

But NICE recommends that where a young person with ADHD is transitioning from child and adolescent mental health services (CAMHS) or paediatric services their symptoms should be reassessed at school-leaving age to establish the need for continuing treatment into adulthood. A formal handover between CAMHS or paediatrics and adult psychiatric services should also be considered.

In addition, after transition to adult services, adult healthcare professionals should carry out a comprehensive assessment of the person. This should include personal, educational, occupational and social functioning and evaluation of any coexisting conditions, especially drug misuse, personality disorders, emotional problems and learning difficulties.

2) Drug monitoring service, where patients taking medication for their ADHD symptoms could be reviewed by a specialist, whether they be adult psychiatrists, nurse practitioners or primary care physicians. This is an important aspect as NICE recommends that once a diagnosis has been confirmed then first line treatment in adults is with medication in most cases.
ADHD in adults is a prevalent and potentially disabling condition that can be reliably diagnosed and treated effectively to the requirements of the referring authorities.

A number of referrers seek a diagnostic opinion only – whether diagnosed in childhood or previously undiagnosed – with treatment recommendations to be implemented locally under follow-up from the relevant local mental health team; general adult, forensic, substance misuse, learning disabilities etc. Others require a diagnostic service and treatment including pharmacotherapy follow-up and/or psychological treatments. Pharmacotherapy follows the best available evidence and national and international guidance as described above. In terms of the psychological treatments, two modalities are currently available; a therapeutic group along psychoeducational lines delivered on a ‘block training’ format and an individual cognitive behavioural therapy course. Both are specifically designed for adults with ADHD and have an evaluation mechanism incorporated.

The clinic is working closely with the Institute of Psychiatry, King’s College London, to provide a research programme as well as training and education as part of the clinical academic group. In addition to clinical trials for pharmacotherapy and psychological treatments, neuropsychological, neuroimaging and genetic research is being undertaken and supported by research grants.

In conclusion, a large proportion of children ‘grow out’ of ADHD in late adolescence as a result of brain maturation and psychosocial adaptation. But ADHD in adults is a prevalent and potentially disabling condition that can be reliably diagnosed and treated effectively through pharmacological treatments and psychosocial interventions.

An important first step for the recognition and diagnosis of ADHD in adults involves increasing awareness and knowledge of the condition in mental health professionals through appropriate training and continuing professional development. Following a thorough assessment, a comprehensive treatment plan can be developed.

References