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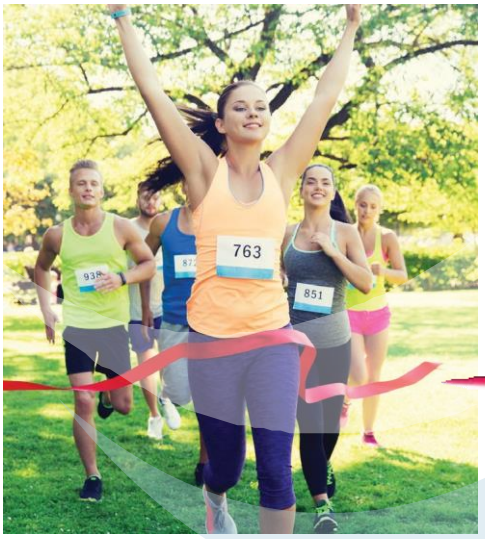
HSE NATIONAL CLINICAL PROGRAMME

WORKING GROUP MEMBERSHIP

ADHD IN ADULTS

ATTENTION DEFICIT HYPERACTIVITY DISORDER

Model of Care for Ireland



ADHD IN ADULTS
HSE NATIONAL CLINICAL PROGRAMME

Clinical Design & Innovation
Person-centred, co-ordinated care

HSE Mental Health Services

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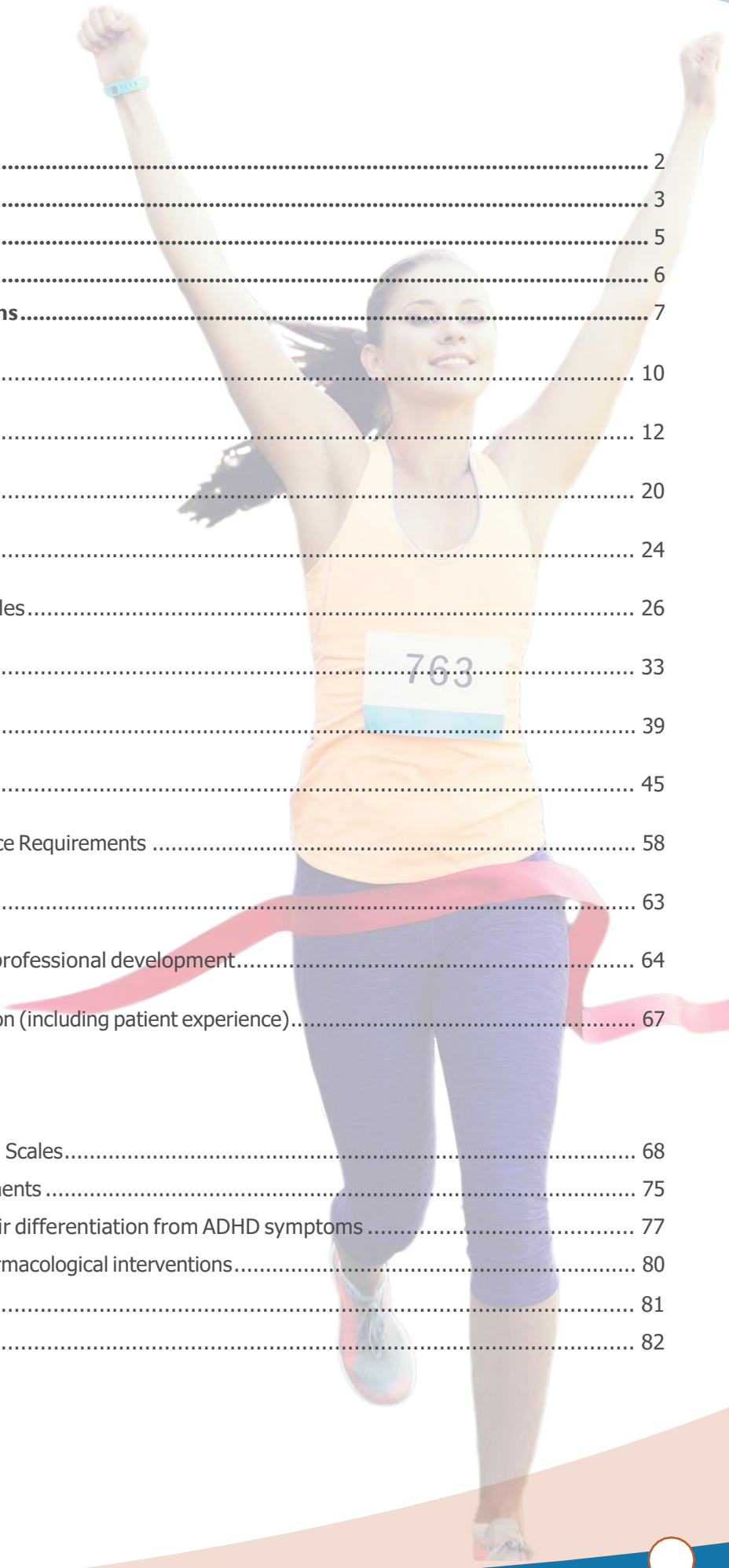

Foreword

On behalf of HSE Clinical Design and Innovation and Mental Health Community Operations we are delighted to present and endorse the National Clinical Programme for ADHD in Adults Model of Care. The Model of Care has been developed in close partnership with ADHD Ireland and the College of Psychiatrists of Ireland.

We welcome this Programme which addresses a significant clinical deficit: the lack of public services for adults with ADHD in Ireland. It will ensure the provision of skilled assessment and diagnosis together with multimodal treatment encompassing medication and psycho-social interventions. As a core principle, the Programme conceptualises ADHD as being an altered ability, rather than a disability, in line with the Recovery ethos.

Through its support of the National Clinical Programme for ADHD in Adults, the HSE has prioritised the provision of high quality, accessible and value of money Adult ADHD services in Ireland. In the absence of any pre-existing public service dedicated to Adult ADHD infrastructure or strategy, this Model of Care has been developed to guide the delivery of these aims.

The Model of Care is based on the Sláintecare principle of integrated care across mental health and primary care services, voluntary services and also third level education and employment services.

Moreover, it fulfils a key recommendation of Sharing the Vision (Action 53) which requires that the phased implementation and evaluation of appropriate service responses to support adults with ADHD be developed and resourced in line with the National Clinical Programme for Adults with ADHD.

We would like to express gratitude to all of the multidisciplinary team members of the HSE ADHD in Adults working group, the membership of which reflects Mental Health's principles of an integrated team response guided by service user input.

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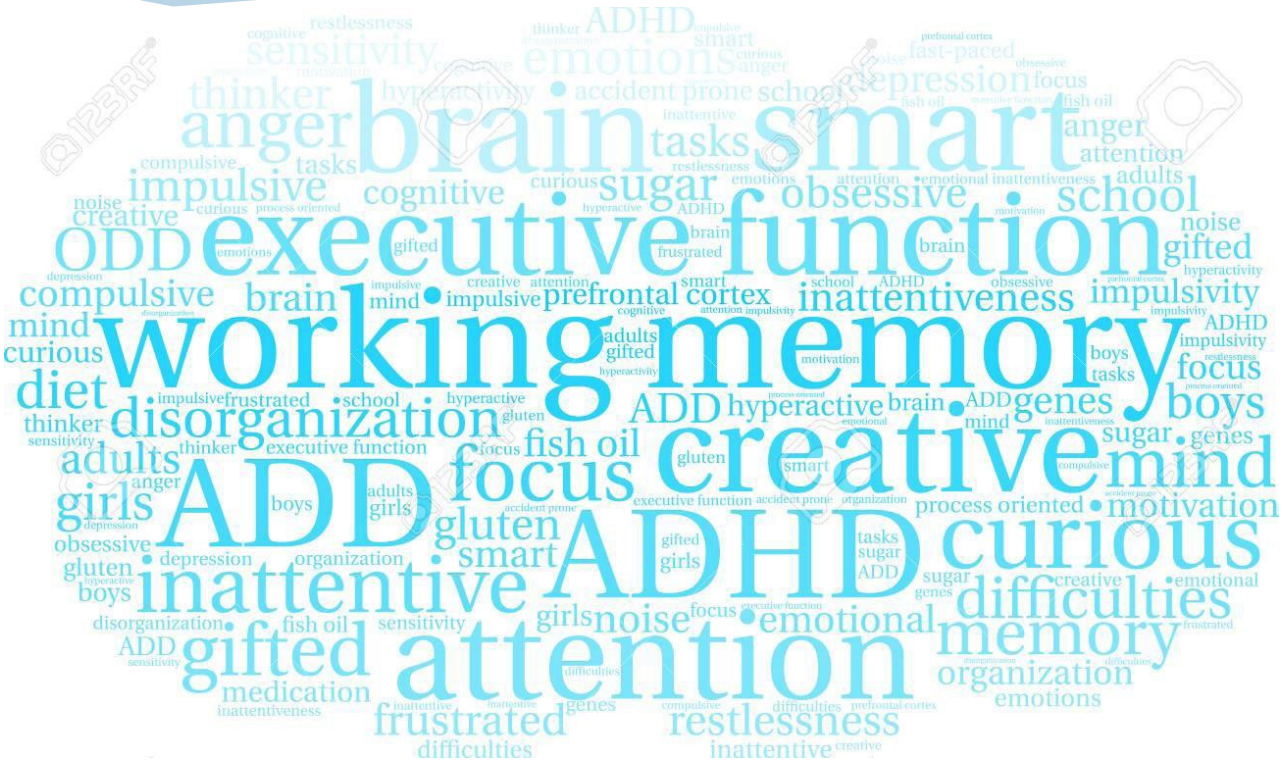

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Endorsed by:

ADHD
SUPPORT • EDUCATION • AWARENESS
IRELAND

Executive Summary

ADHD has long been recognised as one of the most common psychiatric disorders in children and it is now known to persist into adulthood. Two-thirds of the 5% of children with ADHD continue to have symptoms when adults with 1.5% of the adult population having the full syndrome. The latter consists of the persistence of at least 2 of the 3 core symptoms (inattention, hyperactivity and impulsivity) together with functional impairment in at least two domains.

Despite this, there are no fully established ADHD specific services for adults with syndromal ADHD in Ireland. This is a significant deficit in service provision for 3 groups of adults:

- Those diagnosed with ADHD as children with syndromal ADHD persisting into adulthood (18 years and older)
- The parents of these young people, of whom 25% may have ADHD as there is a strong familial genetic link.
- Adults of all ages in whom ADHD was not recognised in childhood. This is most likely to occur in girls in whom the most prominent core symptom is likely to be inattention and so easily missed with the child being described as "dreamy".

As well as functional impairments in domains such as personal and social relations, education and occupation, managing money and organising life in general, there is an increased risk of co-morbid mental health problems (anxiety and/or depression), road traffic accidents and criminal conviction. Suicide and self-harming both occur at increased rates.

The condition is, therefore, a major public health and social problem for which this Clinical Programme recommends an evidence based, practical and integrated response. The details of this are outlined in the Model of Care and summarised in the next section on Recommendations.

Summary of Key Recommendations

1. ADHD occurs in 5-7% of children. It is also known that approximately 15% of these young people continue to have the full syndrome in adulthood, i.e. 1-1.5% of adult population.
2. The full syndrome consists of the core symptoms of ADHD together with impairment in at least two functional domains (work or education, managing money, relationships, social interaction, driving and offending behaviour).
3. Co-morbid mental health problems, especially anxiety and depression, are common with up to 15% of those without psychoses attending adult services having unrecognised ADHD.
4. Drug and alcohol misuse and anti-social behaviour are also more common.
5. The key features of the recommended response are:
   i. working in partnership with people with or thought to have ADHD
   ii. comprehensive and skilled assessment
   iii. evidenced based multi-modal treatment aligned to the principal of altered ability rather than disability.
6. The service model is based on the lack of public services for adults with ADHD in Ireland. This includes:
   i. those diagnosed with ADHD as children and requiring on-going treatment as adults
   ii. those attending mental health services in whom ADHD has not been recognised
   iii. adults suspected as having ADHD for whom assessment is required.
7. The model of care recommends a combined secondary/tertiary service approach based on close collaboration with adult and child mental health services. A key feature is integrated working with general practitioners and primary care teams.
8. The referral process consists of referral to adult community mental health teams (ACMHTs) where screening for possible ADHD is completed as part of an overall mental health assessment. Those screening positive are then seen by the ADHD Clinic Team. This process includes current attendees of AMHTs thought to have ADHD.
9. A modified pathway for adolescents with ADHD attending child and adolescent community mental health teams (CAMHS) is outlined. This will smooth the transition process to the ADHD Clinic for those whose primary problem is ADHD for which they continue to require mental health intervention.
10. A comprehensive and skilled assessment is carried out at the ADHD Clinic. The Diagnostic Interview for Adult ADHD (DIVA) is recommended to ensure all relevant symptoms are explored. This must include identification of co- morbidities.
11. An integral part of the assessment is the post assessment discussion, whether the outcome confirms ADHD or not. This is to agree a comprehensive individual care plan to which the person commits. It also ensures appropriate signposting for those found not to have ADHD.
12. Treatment includes:

    - ADHD specific medication in the ADHD Clinic
    - Treatment of co-morbidities – those with severer co-morbidities to be treated by their Adult Community Mental Health Teams before ADHD specific interventions are considered
    - Non-pharmacological interventions delivered through the ADHD Clinics
        - ADHD specific cognitive behaviour therapy
        - Occupational therapy interventions which are task focused
        - Other important interventions recommended and available outside the HSE
        - ADHD Ireland for information and support

- ADHD specific coaching
- General wellbeing advice
- EmployAbility service to assist those with difficulties in finding and/or keeping a job.

13. The clinical pathway for adults with ADHD is shown in figure 1. It includes referral routes, screening, assessment, treatment and eventual discharge.

14. The model of care is in line with A Vision for Change and Sharing the Vision and based on local service delivery in defined mental health catchment areas, in line with the CHO structure (figure 2) with one ADHD clinic team recommended for 250,000 - 400,000 working age adults. The current population indicates 11 such teams will be required, together with an additional team to work in tandem with the Forensic Psychiatry Teams serving the Dublin prisons.

15. Each team will be multidisciplinary to ensure the provision of comprehensive assessment and multimodal treatment. A full team will consist of:

    - Consultant General Adult Psychiatrist – 1.0 WTE
    - Administrator (Grade IV) – 1.0 WTE
    - Clinical Nurse Specialist (mental health) – 1.0 WTE
    - Psychologist (senior) – 1.0 WTE
    - Occupational Therapist (senior) – 1.0 WTE

16. Each local mental health area must provide appropriate outpatient clinic facilities and one site for the team. Rooms required are:

    - Waiting area with administrator adjacent
    - Group/ meeting room
    - 4 Offices for patient contacts.

17. It is envisaged there will be two stages of development of the Model of Care. The first phase will focus on all assessments being carried out by the ADHD Clinic as well as multi-modal interventions, together with the provision of training in the assessment of ADHD for all current adult psychiatrists, if required, and higher specialist trainees in psychiatry.
    In the second phase, it is envisaged that only more complex cases will be referred to the ADHD Clinic for assessment. Multi-modal interventions will continue to be delivered through the ADHD Clinic.

18. The Adult ADHD National Clinical Programme will be implemented to operate within the established governance structures for mental health services.

19. Implementation will be supported and over-seen by a National Oversight Implementation Group led by the Clinical Lead and supported by the Programme Manager.

20. Collection of activity and outcome data will be co-ordinated by the Programme Manager working with the local ADHD Clinic Team. This will guide future development and inform the implementation process.

21. On-going training and education for the Adult ADHD Clinic Teams and the wider mental health service will be part of the role of the National Group working closely with the relevant training bodies and professional groups.

22. These recommendations and specifically their implementation are entirely dependent on the provision of the additional funding required to establish the Adult ADHD Teams.

Attention Deficit Hyperactivity Disorder (ADHD) in the European Consensus Statement on Diagnosis and Treatment of Adult ADHD is described as one of the most common psychiatric disorders of childhood. It is now known to persist into adulthood (Kooij 2010), with approximately 65% of children continuing to have symptoms in adulthood and 15% meeting the full diagnostic criteria (Barkley 2002; Faraone 2006). It is classified as a neurodevelopmental disorder, together with specific learning disabilities, in DSM-5 (APA 2013). It occurs in 5% - 7% of children continuing into adulthood in 3.4% - 4.4% (Faraone 2005; Kessler 2006) with 1.5% having the full syndrome (Faraone 2006).

In Ireland, assessment and treatment of children and adolescents with Attention Deficit Hyperactivity Disorder (ADHD) is provided through the Child and Adolescent Mental Health Services (CAMHS). The HSE Fifth Annual Child and Adolescent Mental Health Annual Report (2012-13) indicated ADHD was again the most common primary presentation with a peak in the 5-9 year age group. Likewise, both children and adults with intellectual disability who have co-morbid ADHD have access to Mental Health Intellectual Disability Services. The latter provide assessment, care and treatment for ADHD and their expansion to ensure full geographic coverage in Ireland is the subject of an ongoing Service Improvement Project (HSE Service Plans 2015-2018). However there are virtually no equivalent public services for adults with ADHD who do not have a moderate or greater degree of intellectual disability.

In recognition of this, the HSE's Mental Health Division (MHD) and Clinical Strategy and Programmes Division (CPSD) in conjunction with the College of Psychiatrists of Ireland (COPI) established a National Clinical Programme for ADHD in Adults in 2016. The MHD and CSPD then established a Working Group for this National Clinical Programme (NCP) and work began in Autumn 2016.

Purpose of the National Working Group

The Working Group was charged with designing and developing a Model of Care for the strategic and operational delivery of services for adults with ADHD taking into consideration:

- The interests of adults aged 18 years and over
- Relevant national and international policy documents and reports
- Relevant national and international research, evidence based practice and standards.

INTRODUCTION

The Working Group was chaired by the then National Clinical Advisor Group Lead Mental Health who has since been appointed Clinical Lead for the National Clinical Programme. The members of the Working Group are listed on page 2 and include multi-disciplinary and service user representation, in keeping with the principles outlined in A Vision for Change for service development (AVFC 2006).

The Model of Care should not be considered as in-depth clinical practice guidance. Clinical aspects of it may be developed as such in the future through the Department of Health's National Clinical Effectiveness Committee.

Aims

The specific aims of this Clinical Programme are:

- To provide for the assessment of adults with symptoms suggestive of ADHD by trained and skilled staff.
- To provide multi-modal treatment involving a combination of pharmacological and non pharamacological interventions.
- To ensure that young people attending CAMHS for ADHD who continue to have significant symptoms of ADHD and/or co-morbid mental illness who require treatment can be transferred to adult mental health services. That this transfer is planned in advance to ensure it occurs smoothly.
- That all of the above is delivered through a clearly defined and integrated clinical pathway.

In devising the Model of Care recommended by this National Clinical Programme the following information was considered:

A comprehensive literature review[1]

- Current Irish research on ADHD in adults
- The service user perspective
- Invited presentations on:
  - the assessment process
  - the role of a specialist ADHD Occupational Therapist
  - psycho-education and cognitive behavioural therapy for adults with ADHD
- Submission from a specialist ADHD coach.

[1] *Data bases used: Pubmed, Clinahl, Psychinfo, Cochrane; Grade System.*

2.0 Background

2.1 Recognition

ADHD has been recognised in children for well over a century with the first medical description of ADHD credited to Still, a British Paediatrician, in 1902 (Lancet: Gaulstonian lectures). The first recorded treatment of ADHD in children was with benzedrine by Charles Bradley in 1937 and in 1963 methylphenidate was first used, again in children. Assessment and treatment of children and adolescents with ADHD is now routine practice worldwide, including in Ireland (HSE 2013).

The first study of its persistence into adulthood was carried out in 1976 (Wood) and it showed that, like children, adults had a similar pattern of core symptoms; associated impairments of equivalent functional domains; a similar pattern of co-morbidity; a similar response to stimulant medication and similar cognitive performance measures. Despite these findings and subsequent evidence of the number of adolescents who continue to experience distressing and impairing symptoms into adulthood (Barkley 2002, Faraone 2006), there was little in the way of service response. So much so that in 2003, the British Journal of Psychiatry published an invited debate on "ADHD is best understood in a cultural concept". The paper did not conclude for or against this proposition (Timini 2003) but did state that broad social influences probably contribute to the recognition of the disorder rather than its prevalence. Adding these do not amount to a social construction of disorder but in the UK at least worked against recognition of a treatable risk. Philip Asherson in his pivotal paper (Asherson 2005) described the effects of unrecognised and untreated ADHD in adults. These include:

- the distress of symptoms secondary to the core features of inattention, hyperactivity and impulsivity on the person and other people around them, including family and friends
- impaired ability to function at work and in academic settings
- problems in sustaining stable relationships as a consequence of volatile moods, antisocial behaviour and drug and alcohol misuse
- the effects of comorbid mental illness, especially anxiety and depression.

At around the same time an Irish study examined the diagnosis and management of attention deficit hyperactivity disorder in children and adults with and without learning disability. This took the form of a postal questionnaire to 302 Consultant Psychiatrists listed in the Irish Medical Directory in 2003. The response rate from adults psychiatrists (25%) was much lower than from child psychiatrists (67%) and learning disability psychiatrists (75%). Of note the child psychiatrists were significantly more confident ($P<0.05$) about diagnosing ADHD in children with and without learning disability than psychiatrists working with adults (Buckley 2006). The availability of just one public service in Sligo/Leitrim in 2018 indicates little has changed in the intervening years (Adamis 2017).

From this account it is clear that it took some time for ADHD to be accepted as a diagnostic entity in children. Similarly there has been some resistance to its acceptance as a valid diagnosis in adults, despite its recognition as such by WHO (1996), the National Institute for Clinical Effectiveness (2008), Royal College of Psychiatrists, American Psychiatric Association, Royal College of Australia and New Zealand and the Canadian Psychiatric Association.

Adult ADHD was, and still occasionally is, perceived as a dubious diagnosis used by patients seeking stimulants for nefarious purposes (Geffen 2018). The symptoms, like those of other mental disorders such as major depression and post traumatic disorders in the past, suffer from being on a continuum. This leads to accusations of medicalising normal experience.

However, there is now a wealth of evidence accumulating that persistence of syndromal ADHD into adulthood does occur to a significant degree (Faraone 2006) with poorer functioning in all domains (Agnew-Blais 2018) and that it responds to integrated pharmacological and psychotherapeutic intervention thereby reducing disability and improving quality of life (Vidal-Estrada 2012, Jensen 2016, Morgensterns 2016, De Crescenzo 2017, Lopez-Pinar 2018).

A common reason given for adult mental health services not providing treatment for ADHD in adults is that it is a neurodevelopmental disorder (ICD 10, 1996, Geffen 2018). However, neurodevelopmental disorders are now considered to include not only ADHD but also schirophrenia and both bipolar disorder and major depressive disorder when associated with psychosis (Mullins 2013). Common to each is evidence of cognitive dysfunction with the pre-frontal cortex in particular involved (Etkin 2013). This takes the form of executive dysfunction resulting in problems with working memory, flexibility and inhibitory functions, thereby impairing goal directed behaviour (Miller 2001). It is now central to our understanding of disability in psychiatric illness (Geffen 2018).

Another question that arises is whether services for adults with ADHD should be combined with those for adults with autistic spectrum disorder (ASD) since both are commonly classified as neurodevelopmental disorders. Notwithstanding the latter, a key difference is that there is effective treatment available for the core symptoms of ADHD but not for those in ASD.

2.2 Epidemiology

The prevalence of ADHD in adults is significant with an estimate of 3.4% (range 1.2% - 7.3%) indicated by Fayyad (2007). A meta-regression analysis of six prevalence studies of ADHD found a pooled prevalence of 2.5% (Simon 2009).

However, it is important to distinguish between those with symptoms, described as in partial remission, from those meeting all diagnostic criteria. The latter also have impairment in at least two functional domains and their prevalence is 1.5% in the adult population (Faraone 2006).

A study of ADHD in a variety of settings in the United Kingdom showed a rate of 15.3% in non-psychotic adults attending secondary mental health care (Murphy 2013). Other findings in the same study were 2.5% in the overall adult population and 25% in the prison population.

Deberdt's study on the prevalence of ADHD in adults (without psychosis) attending outpatient settings found an overall prevalence of 15.3% using the Diagnostic Interview for Adult ADHD (DIVA 2010) and based on DSM V criteria. The study involved 1,986 adults of whom 1,079 screened positive on the 6 item Adult Self-Report Scale (ASRS), (Kessler 2005), a screening tool. Of the 804 who completed the DIVA, 349 were found to have ADHD. The majority had the combined type (63%). More women were first diagnosed as having ADHD by this study (60% v. 48%) with an overall prevalence rate of 14% in woman compared to 21% in men. The study concluded that ADHD is present in a substantial proportion of non-psychotic patients seeking psychiatric help. Compared to other people attending psychiatric outpatients they are amongst the most impaired. The authors recommended systematic screening. However, they also recommended using additional screening criteria that would improve the specificity of existing tools with minimal loss of sensitivity.

A study by Rao (2011) of current attenders in four psychiatric outpatient clinics in North East England, excluding those with organic disorders and acutely ill, found a prevalence of 22%. The diagnoses were clinically based on DSM IV criteria supplemented by the British Association of Psycho-pharmacology recommendations. The authors concluded that the presence of co-morbid ADHD offers other avenues of therapeutic intervention that may be helpful to these patients.

The gender differences in prevalence change from 4:1 males to females in childhood to 2:1 in young adults

(Bramham 2012). This might represent an underdiagnosis in girls who are more likely to have the inattentive form of ADHD. Also, with increasing age, the greatest improvement is in symptoms of impulsivity and hyperactivity. A combination of both factors probably contributes (Young and Bramham 2007).

A longitudinal study in New Zealand suggested there may be an adult onset form of ADHD (Moffitt 2015). However, a recent American study based on repeated comprehensive assessments refutes this (Sibley 2017). It states previous reports are limited by relying on screening instruments only to assess for ADHD, not considering alternative diagnoses or not obtaining complete psychiatric histories. Careful clinical assessment, including a good collateral history from a person who has known the patient as a child, is essential.

Two Irish studies, one urban and one rural, both including people attending adult outpatient clinics found over 20% screened positive for ADHD symptoms (Syed, 2010; Adamis, 2017). The Syed study in an urban area of North Dublin used the six item Adult Self Report Scale VI.I (Kessler 2005). 243 of 264 patients approached completed the questionnaire of whom 58 screened positive for ADHD symptoms. There was no difference in those who screened positive from those who did not in age (average 42 years), duration of clinic attendance (6-7 years) and substance misuse. Those screening positive were twice as likely to have been in trouble with the law (21% versus 10%) and not to have completed secondary education (56% versus 38%). The male:female ratio in those screening positive was 2:1.

The Adamis study examined the largely rural population in counties Sligo and Leitrim with a total population of 109,000 people. Adult attenders of all mental health outpatient clinics aged 18-64 years were asked to complete two questionnaires: the ASRS Parts A (6 questions) and Part B (12 questions) (Kessler 2005) and the Wender Utah Rating Scale (WURS) shorter 25 question format (Ward 1993). Of 760 eligible patients, 634 completed both questionnaires. 215 (33.9%) screened positive for possible childhood ADHD on the WURS and 219 (34.5%) screened positive for possible current ADHD on the ASRS. This study applied the more stringent criteria of requiring positive screening on both scales. It indicated 131 people (20.7%) might have ADHD of whom only 3 had a diagnosis of childhood ADHD. There was no difference in gender ratio (1:1), marital status, occupation (with high levels of unemployment in both of over 45%) or education in the groups of positive and negative screeners. There was a difference in age (average of 41.3 years in non cases and 36.7 years in possible cases) and in house ownership (51% v. 35%). However, the latter might be explained by age alone. Adamis is now carrying out full assessments on those screening positive for possible ADHD.

2.3 Causes

The aetiology of ADHD is an interplay between genetic and environmental factors. Evidence for the ***genetic aetiology*** includes:

- 80% concordance in identical twins (Rietveld 2003).
- Faraone's meta-analysing of 20 twin studies estimated the heritability of ADHD to be .76 (2005).
- Parents with ADHD may have a 35-50% chance of having a child with ADHD and 25% of children with ADHD may have a parent with the condition (Faraone 2001).
- Molecular genetic studies suggest several genes involved in the regulation of neurotransmitter function interact to produce a disorder of neurotransmitter function associated specifically with dysregulation, rather than a deficit, of dopamine and noradrenaline. Underfunctioning of these two transmitters is thought to result in the clinical symptoms of inattention, hyperactivity and impulsivity (Thapar 2013).

Methylphenidate, the main pharmacological treatment for ADHD, increases the levels of both these neurotransmitters (Arnstein 2006) supporting this hypothesis.

Neurobiological Evidence

A recent paper in the Lancet (Hoogman 2017) provides the strongest neurobiological evidence for ADHD. This reports a cross-sectional mega-analysis of subcortical brain volume differences in participants with ADHD, both children and adults. It used MRI data from the international ENIGMA ADHD workshop group (9 countries in total: 1,713 participants with ADHD and 1,529 controls). The volume of certain subcortical structures (accumbens, amygdata, caudate, putamen) and of the hippocampus as well as overall intra-cranial volume were smaller in individuals with ADHD. The differences decreased with increasing age supporting the view that ADHD is a neurobiologic condition caused by delayed maturation. The study also found the changes in brain volume were not due to stimulant medication or comorbid conditions. The largest effect was found in the amygdala. This was considered important because of the prominence of emotional dysregulation in ADHD.

Possible environmental associations with ADHD

These include:

- Perinatal factors such as maternal smoking and alcohol use (Linnet 2003; Das Banerjee 2007)
- Perinatal trauma particularly hypoxia (Lou 2004)
- Acquired neurological disorders e.g. encephalitis (Chou 2015) and stroke (Max 2003)
- Severe adversity in childhood as evidenced by increase rates of ADHD in some children adopted from Romanian orphanages (Kreppner 2001, Kennedy 2016)

Thus the aetiology of ADHD is multi-factorial involving the interplay of multiple genetic, neurobiological and environmental factors, including psycho-social adversity (NICE 2013). At its simplest, it is thought that disrupted neurotransmitter function results in the symptoms of ADHD. The underlying pathophysiology is poorly understood. Large scale genetic studies have shown that it is a complex genetic disorder with multiple risk genes of small effect and it is likely that gene-environment interactions increase susceptibility to the development of the disorder. Neuro-imaging studies have demonstrated brain abnormalities with differences decreasing with age supporting the view that ADHD is a neurologic condition caused in part by delayed maturation.

2.4 Diagnosis

This section gives an overview on the diagnosis of ADHD in adults which informs the later section on diagnosis in chapter 7.

Asherson (2005) described the non-recognition of ADHD by adult mental health services leading to people being misdiagnosed and treated for other conditions. These include atypical depression, mixed affective disorders, cyclothymia and borderline/emotionally unstable personality disorders. This can be attributed to a combination of the prominent mood lability seen in adults with ADHD together with the more subtle expression of hyperactivity and impulsivity in adults. Specifically age related evolution of symptoms in childhood of hyperactivity and impulsiveness often diminish in adulthood with inattention, disorganisation and impaired behaviours secondary to executive dysfunction becoming more obvious (Kooij 2010). Where antisocial behaviour features prominently, a misdiagnosis of borderline/emotionally unstable personality disorder is likely to occur (Kooij 2010; Ginsberg 2014).

The NICE Guidelines on the diagnosis and management of ADHD (2008) state that symptoms of ADHD are distributed throughout the population and vary in severity, only those with significant impairment meet criteria for a diagnosis of ADHD. These guidelines include adults and internationally have been pivotal in guiding service provision. Likewise the European Consensus Statement on diagnosis and treatment of adult ADHD (Kooij 2010) aims to increase awareness of the disorder thereby improving knowledge and care of adults with ADHD across Europe. Its purpose is primarily to support clinicians by providing research evidence and clinical experience from the eighteen European countries participating in this Consensus Statement. It identified ADHD in adults as an impairing lifelong condition which is underdiagnosed in most European countries (including Ireland) leading to impaired quality of life following ineffective treatment thereby resulting in on-going distress and impairment. Long term follow up studies of adults with ADHD document fewer social relationships and friends, higher rates of academic failure, lower occupational status, increased substance misuse (both alcohol and drugs), increased number of accidents (especially driving) and offending behaviour (Kesler 2005; Murphy 1996; Barkley 2007; Barkley 2002; Able 2007; Biederman 2006). Not surprisingly, untreated adult ADHD has a higher cost of illness in economic terms (Adamou 2010).

Asherson, in his seminal paper of 2005, concluded that any psychiatrist using standard assessment procedures could perform clinical evaluations of adults with possible ADHD as it has a highly characteristic psychopathology, runs a chronic persistent course (from childhood) and, importantly, responds well to multimodal treatment. Diagnosis is made by thorough clinical assessment. There is no psychological testing or rating scale that can be used instead.

International Medical Classification Systems

The two main classification systems used for diagnosing ADHD are ICD 10 (1993) and DSM 5 (2013).

ICD 10, developed by the World Health Organisation refers to ADHD as hyperkinetic disorder (HKD), a term widely used in Europe and included in the European Clinical Guidelines developed by the European Network for Hyperkinetic Disorders (EUNETHYDIS).

The DSM V classification system for ADHD is published by the American Psychiatric Association and is used in the USA and the rest of the world. It replaced DSM IV in 2013 and the main difference is the requirement for impairment in two functional domains. This is also required in ICD 10. In both classification systems, the features of ADHD are similar but ICD 10 requires that all three features (inattention, hyperactivity and impulsiveness) are present whereas DSM V diagnostic criteria require a pattern of inattention and/or hyperactivity-impulsivity (combined, predominantly inattention or predominantly hyperactive-impulsive presentations).

This Model of Care recommends diagnosis is made using the Diagnostic Interview for Adult ADHD (DIVA-5) (Kooij 2019) based on DSM V criteria.

2.5 National Policy

A Vision for Change (AVFC: 2006), Ireland's national policy for mental health services until very recently, refers to children with ADHD being assessed and treated by Child and Adolescent Mental Health Services. However, it was written in 2006 and in the intervening years there have been considerable advances in recognising the condition is more likely than not to persist into adulthood, continues to cause distress and impairment and effective treatment is available. The ethos of AFVC informs the principles and design of the service recommended by this Clinical Programme.

These are:

- Involvement of service users in every aspect of service development
- Well trained and staffed community based multidisciplinary teams
- Services across the (adult) lifespan
- A range of relevant medical, psychological and social therapies
- A recovery orientation informing every aspect of service delivery, specifically with service users as partners in their own care
- Close links between the mental health (Adult ADHD) service, primary care and voluntary groups
- Organised nationally as discrete catchment areas of between 250,000 – 400,000.
- Clear local and national governance structure
- Meaningful evaluation of (ADHD) services supported by an appropriate information dataset based on (ADHD specific) national data
- Clear plan for required (ADHD) education all overseen by an (ADHD) implementation group.

The ***Evidence Review to inform parameters for a refresh of A Vision for Change*** (DOH 2017) referred to the use in the Netherlands of multi-disciplinary guides on mental health including one on ADHD in Adults. It also described the use of Breakthrough Quality Collaboratives (QICS). These are quality improvement profiles based on multi-faceted strategies to support the implementation of these guidelines. The key features, applicable to ADHD for instance, are:

- a focus on ADHD in recognition of the gap between current and best practice
- clinical experts who provide ideas and support for improvement
- participation of multidisciplinary teams from multiple sites
- a model for improvement (setting targets, collecting data and testing changes)
- a collaborative process with a series of structured activities within a given timeframe (Forti 2014).

This is similar to the process used in this clinical programme.

Sharing the Vision (DOH 2020), the new national policy on mental health, states ADHD in adults is an under-recognised and under-diagnosed lifelong condition; one that leads to impaired quality of life, results in on-going distress and is often associated with inappropriate treatment interventions. In Sharing the Vision's Implementation Plan, Action 53 requires the phased implementation and evaluation of appropriate service responses to support adults with ADHD be developed and resourced in line with the National Clinical Programme for Adults with ADHD.

BACKGROUND

Sláintecare (Government of Ireland, 2017) now the national policy on health care in general with its emphasis on integrated care is very relevant. It describes integrated care based on the patient being paramount. Its key components are a public service, timely access, appropriate care pathways, seamless transition backed up by full patient records and information.

3. Rationale

The rationale for developing a National Clinical Programme for ADHD in Adults is based on two pillars of evidence: clinical and economic together with evidence from prisons and on mortality.

Clinical Evidence

The adverse consequences of moderate to severe difficulties arising from persistent syndromal ADHD in adulthood are now well recognised (Asherson 2005, Kooji 2010). The three core features of the disorder are inattention, hyperactivity and impulsivity (DSMV:APA 2013). The symptoms related to inattention are those most often complained of and these include forgetfulness, difficulties in organisation particularly of routine tasks, being easily distracted by thoughts or external events. Hyperactivity is less evident in adults but some symptoms may be present such as fidgeting, picking at fingers, tapping hands and feet or playing with hair etc. Also common are reports of finding it difficult to sit and listen at lectures or meetings. Talking excessively may occur reflecting difficulty in maintaining concentration on what other people are saying. Like hyperactivity, impulsivity may be less evident but still causes difficulties e.g. in conversation with constant butting in, indiscreet comments and in a documented increase in driving offences (Barkley 2007). Persistence of impulsivity and hyperactivity is seen in adults with ADHD with addiction or forensic problems (Huntley 2012). The impact of these symptoms is seen in functional impairments and to make a diagnosis of ADHD impairment should be present in at least two of the domains listed below (APA 2013):

- Work or occupation
- Leisure and recreation
- Social interaction
- Relationships
- Management of money
- Driving
- Offending behaviour

The core symptoms of ADHD are dimensional rather than categorical and hence it is important to make a diagnosis of syndromal ADHD in which there is moderate to severe impairments in two or more functional domains. Moderate/severe could be interpreted as repeated job losses, repeated or consistent academic failure, repeated relationship breakdown etc due to the symptoms of ADHD. It is for this group of adults with ADHD that the Clinical Programme is designed.

There are a number of other symptoms that are characteristic of adult ADHD but not included in the diagnostic criteria (Young & Bramham 2007, Barkley 2008, Seli 2015). These symptoms include procrastination, low tolerance or frustration, mood lability, low self-esteem, insomnia, spontaneous mind wandering and needless worrying. As previously outlined, it is mood lability and anti-social behaviour specifically which lead to misdiagnosis if ADHD is not specifically considered as one of the differential diagnoses for adults with non-psychotic mental health symptoms.

Finally, it is known that comorbidity with other mental health diagnoses is the rule rather than the exception in adult ADHD (Kooij 2001; Biederman 2007; Secnik 2005) with 85% showing such symptoms (Cumyn 2009). These symptoms may represent core ADHD symptoms, the consequences of ADHD (including self-medication with alcohol and other substances) or a separate comorbidity. The comorbidities include anxiety, depression, substance/alcohol misuse, sleep disorders and personality disorders. Recognition of whether the comorbidities are core or separate in any individual is important in determining appropriate treatment (BAP 2007).

If adults with ADHD do not have access to assessment or are misdiagnosed and do not receive effective treatment, they suffer unnecessarily as do their families and work colleagues. Their impairments, secondary to ADHD, affect them in the listed key domains. Despite this, a recent longitudinal study on clinical service use in young adults (up to 24 years) with ADHD revealed the main determinant of health service use was age rather than need (Eklund 2016).

Research has shown that combined therapy using medication with psychosocial interventions (multimodal treatment) is the most effective way to deal with the core symptoms of ADHD and the resulting impairments (Kolar 2008; Knouse 2008; Murphy 2005; Weiss 2008).

Economic Evidence

The economic argument for treating ADHD in adults is obvious when considered in the context of the broad WHO framework's (2000) three fundamental objectives of every health system:

- to improve the health of the population
- to respond to people's expectations
- to provide financial protection against the cost of ill health

The direct and indirect costs and benefits of treating ADHD in adults were summarised by Adamou (2010):

(i) The tangible and direct costs and benefits of successful treatment of ADHD in adults saves on future medical expenses due to traffic and other accidents; treatment of sexually transmitted diseases; visits to doctors.

(ii) The indirect but tangible costs and benefits of working time gains of health professionals.

(iii) The direct but intangible costs and benefits of reduced suffering for adults with ADHD and their families: also for society as a whole from associated impairments and criminality.

The true economic burden of ADHD in adults was explored in a UK/Danish study reported at the 5th World Congress on ADHD in 2015. This study compared adults with ADHD to their unaffected siblings and controlled for co-morbid diagnoses using the Central Person Register in Denmark. 5331 adults diagnosed with ADHD were identified and when matched with a sibling with no psychiatric disorder yielded 365 pairs. Combining public and private services, the cost to society was estimated as €13,608 per person per year (Daley 2014).

This is likely to be an underestimate since it does not include the cost of associated co-morbidities which are the norm in adults with ADHD.

ADHD and Prisons

A meta-analysis of the prevalence of ADHD in the prison population gives a prevalence of 31% for men derived from 22 studies based on diagnostic interviews by clinicians rather than just screening. The equivalent figure from women in prisons is 22% based on 8 studies giving an overall rate of 25.5% (Young 2014). This is ten times greater than the prevalence in the general adult population.

Dalsgaard's study (2013) on the long-term criminal outcomes of children with attention deficit disorder in Denmark showed that children with severe ADHD have a higher risk of criminal convictions in adulthood. This study used the Danish National Crime Register to identify rates of conviction in 206 children (191 boys and 25 girls) treated for ADHD with medication between 1968-1989 and followed up until the year 2000 when their mean age was 31 years. 47% had a criminal conviction compared to the 5.6% rate in the general population i.e. an 8 times increased risk. Co-morbid conduct disorder in both girls and boys increased the risk but the rate was still high at 26% in children with no conduct disorder. The overall rates in boys with ADHD was 47% compared to 7.5% in the general population with equivalent figures for girls being 24% and 1.3%.

A study in a Swedish high security prison with long-term male inmates found a prevalence rate of 40% (Ginsberg 2010). Also found in this study was that all the men with ADHD reported lifetime substance use disorder, most commonly amphetamine, half had mood and anxiety disorders, one quarter autism spectrum disorder. Almost all had antisocial personality disorder preceded by conduct disorder though only 2 out of 30 men had a diagnosis of ADHD in childhood. Psychological assessment revealed executive dysfunction with impaired working memory even when controlling for I.Q.

Ginsberg et al then carried out a 52 week trial of treating these same men with OROS-methylphenindate. 25 of 30 men completed the trial. Medication was found to be very effective in reducing ADHD symptoms, improving global and executive functioning, behaviour and quality of life. No misuse of ADHD medication was detected (Ginsberg 2012). Of most interest, a further long-term treatment outcome study on the same group of prisoners described as a three year naturalistic follow-up continued to show overall improvement (Ginsberg 2015). Specifically, 15 of 20 people in this study had been released from prison of whom 10/15 (67%) were in employment, usually full-time. There were substantial improvements in ADHD symptoms, global symptom severity and functioning and quality of life maintained after 4 years treatment with methylphenidate. There was a reduction in re-offending with 40% reporting this compared to the expected rate of 70-80%. The average dose of methylphenidate was 144 mgs suggesting that ADHD with concurrent SUD might require higher methylphenidate doses then recommended by the NICE guidelines (2013).

A recent report by the Centre for ADHD Awareness, Canada summarised the benefits in personal, social and economic terms of recognising and treating those with ADHD in the Criminal Justice system (2016).

ADHD and Mortality

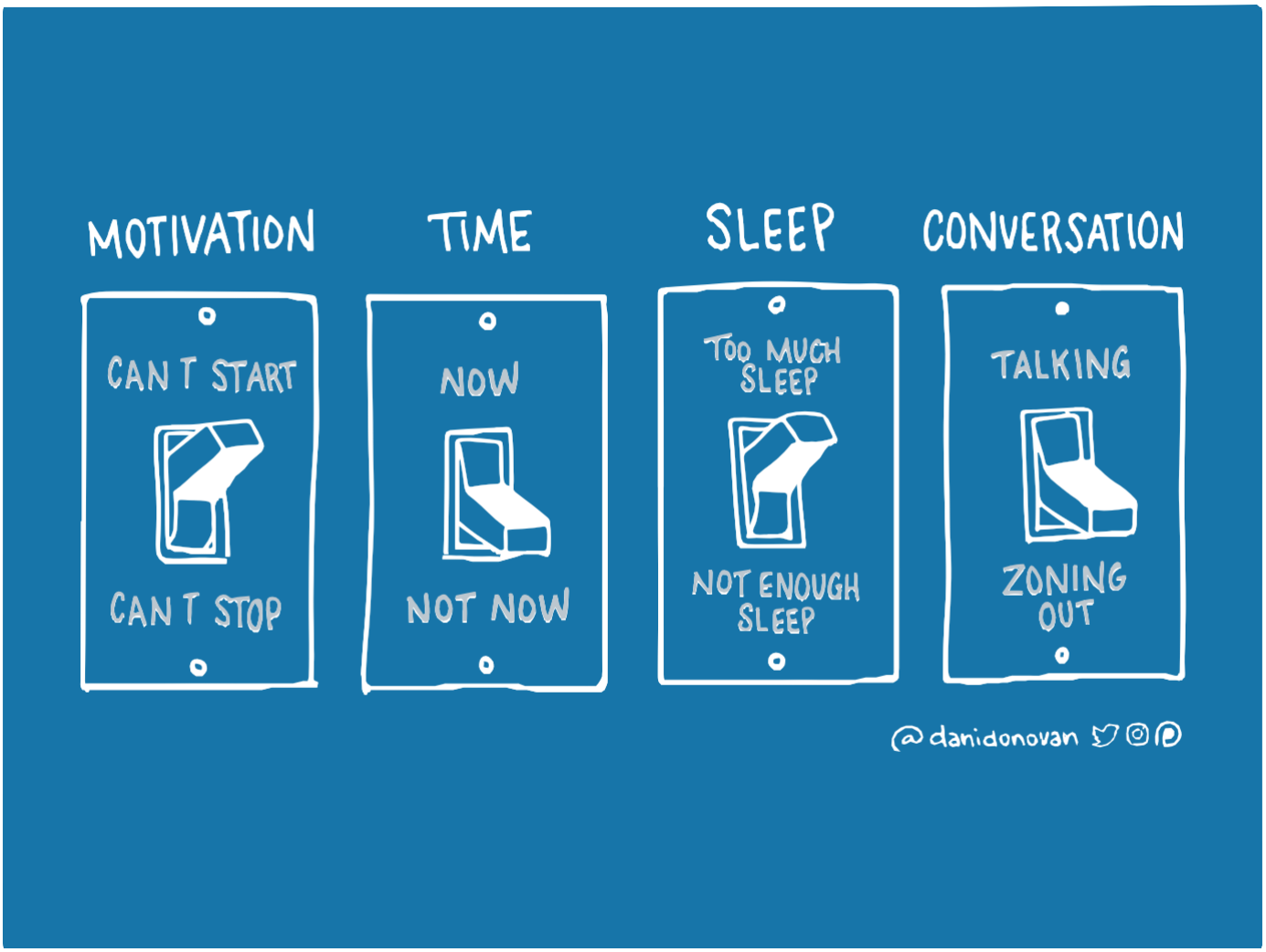
ADHD is associated with an increase in mortality as shown in a Danish population based study with an up to 32 year follow up of children, adolescents and adults with ADHD (Dalsgaard 2017). The mortality rate was higher in those diagnosed in adulthood. It remained higher even when adjusted for the co-morbidities of oppositional defiant disorder, conduct disorder and substance use disorder but was then higher in women than men. The excess mortality was mainly related to accidents.

Another large population based study in Sweden examined the rate of serious transport accidents in people with ADHD and the effects of medication on the rate (Chang 2014). In men with ADHD 6.5% had at least one serious accident in the 4 year follow up period compared to 2.6% of men in the general population. The figures for women were 3.9% and 1.8% respectively. During ADHD specific medication periods (20% of the 4 year follow up period), the rate of accidents reduced by 58% with 41% of accidents attributed to non-medication. This effect was seen in both young and middle-aged men. No such effect of medication was found for women. Visual inattentiveness and impulsiveness are suggested as the major contributors to transport accidents in adults with ADHD (Jerome 2006).

Increased risk of both attempted and completed suicide was identified in a population based study in Sweden (Ljung 2014). The study also showed a pattern of increased familial risk suggesting shared genetic factors are important. It concluded people with ADHD and their families should be targeted by suicide prevention and intervention programmes.

Conclusion

All the evidence outlined in chapters 2 and 3 justifies the imperative to ensure adults with ADHD in Ireland, including those who transition from CAMHS, have access to assessment and treatment within adult mental health services. The focus at this level (secondary care mental health service) will be on those with syndromal ADHD with moderate-severe functional impairments. In line with all other disorders, those with milder forms of ADHD should receive care from primary care services, non-healthcare statutory services such as employability or non-statutory services such as coaching.



4. Aims and Objectives

As previously stated, the specific aims of this Clinical Programme are:

1. To provide for the assessment of adults with symptoms suggestive of ADHD by trained and skilled staff.
2. To provide multi-modal treatment involving a combination of pharmacological and non pharamacological interventions.
3. To ensure that young people attending CAMHS for ADHD who continue to have significant symptoms of ADHD and/or co-morbid mental illness who require treatment can be transferred to adult mental health services. That this transfer is planned in advance to ensure it occurs smoothly.
4. That all of the above is delivered through a clearly defined and integrated clinical pathway.
5. The first three aims are based largely on the NICE Guidelines on Attention Deficit Hyperactivity Disorder: diagnosis and management (2018) together with the NICE Quality Standards on ADHD (2013). Their sum objective is to ensure adults with ADHD have access to assessment and treatment. The fourth aim reflects the core principle of integrated care. The scope of each is outlined under each aim.

1. Assessment of adults with ADHD

(i) Adults with symptoms suggestive of ADHD should be referred to the relevant local adult psychiatry service for the usual assessment. They should also complete the two ADHD screening assessments.

(ii) Adults who have previously been treated for ADHD as children and/or adolescents and who have current symptoms suggestive of ADHD should likewise be referred to their local adult psychiatry service for the same assessment. The ADHD symptoms should be associated with at least moderate or severe psychological and/or social, educational or occupational impairment.

(iii) If screening is positive, an ADHD specific assessment should be then carried out by a psychiatrist who has received training in the diagnosis and treatment of ADHD. Other mental health professionals who have been trained in the diagnosis and treatment of ADHD should work jointly with the psychiatrist in this assessment process.

2. Treatment of adults with ADHD

(i) Treatment should be multimodal involving a combination of pharmacological and non-pharmacological interventions.

(ii) The treatment should be delivered by mental health professionals trained in the treatment of ADHD.

3. Transition to adult services

(i) Young people with ADHD receiving care and treatment from CAMHS or paediatric services will be transitioned to General Adult Psychiatry Services or directly to the proposed ADHD Clinic depending on their diagnoses (syndromal ADHD, significant co-morbid mental illness or other mental illness). The General Adult Psychiatry Service and ADHD Clinic will discuss each such referral jointly and make a decision on the most appropriate service based on the guidelines in Chapter 6. A current diagnosis of ADHD should be confirmed by re-assessment by CAMHS one year prior to school leaving age to establish the need for continued treatment into adulthood (NICE 2018).

(ii) The point of transfer will be 18 years of age unless there is a clinically significant reason to remain in CAMHS.

(iii) Joint planning between CAMHS and General Adult Psychiatry Services and ADHD Clinic for this transition should start six months in advance of the transition. A lead clinician in the CAMHS team should be appointed to ensure the process runs smoothly.

4. Integrated Care

(i) The individual care plan should be based on an integrated approach.

(ii) This should include relevant statutory and voluntary agencies: both health and non health such as:

- primary care health services, in particular psychology
- social protection
- education
- employment
- ADHD specific support and information services
- coaching services

Further details on the objectives are described in the relevant chapters of this Clinical Programme.

5. Core Values and Guiding Principles

Core Values

The core values of this National Clinical Programme are:

1. Working in partnership with service users
2. Comprehensive skilled assessment
3. Evidenced based care and treatment

with the overall aim of providing "strategies for coping in addition to medication, thereby enabling the person to obtain developmental and structural gains that would not otherwise be possible" (Caddra, 3rd Ed. 2014). In this way people learn compensatory strategies and skills to enable them cope with the negative aspects of ADHD. Conceptually ADHD may be viewed as an altered ability, rather than a disability. For people negatively impacted on by their ADHD, the value of diagnosis and tailored made interventions is to support them in acquiring the skills to overcome any associated negative impacts whilst maximising the positive features of ADHD. This is in line with A Vision for Change (2006) requirement of involving service users at every level of service provision. This includes an active role in diagnosis and in decision-making on treatment and developing the capacity of service users to do this.

The core value of service user centrality permeates this Model of Care. It is in part based on a presentation given by the Working Group's service user nominee from ADHD Ireland the key points of which are outlined in the next section. It is important to highlight the positive aspects of ADHD and the subsequent section describes these. Stigma against adults with ADHD is a very real phenomenon and is also addressed. Finally, the guiding principles or rules derived from the core values are listed with particular reference to their role in underpinning the Model of Care.

Service User Perspective

This section provides a unique perspective based on information from adults living with ADHD and the challenges it imposes. Reports were collected informally, for this Working Group and for service development, from service users within ADHD Ireland and from an online adult ADHD support group.

According to service users, ADHD is associated with a wide range of everyday difficulties at home, including day-to-day tasks such as housework, time management, organisation and paying bills but also in relationships with family dynamics often contributing to chaotic and volatile lifestyles. In addition, challenges in work such as forgetfulness, poor time management, impulsivity and difficulties managing relationships occur. Psychosocial difficulties were also identified including relationship problems (colleagues, family, friends, etc.), feelings of depression, anxiety, stress and exhaustion.

Adults with ADHD reported that the journey to diagnosis was extremely difficult with gaps in services, especially public services, meaning that they often had to attend private services. In interacting with professionals, the adults experienced frustration describing problems such as some professionals' lack of knowledge about adult ADHD (especially its diagnosis in adulthood) and a perceived lack of empathy. They often felt not heard, understood, listened to and sometimes not believed. Delays in diagnosis were reported as widespread. However, the merit of having a definitive diagnosis was highlighted by adults and they advocated for early diagnosis to avoid the problems of living with undiagnosed ADHD. Adults reported relief when diagnosed and the importance of then developing self-awareness, accessing support and education. Nevertheless, a diagnosis may also be challenging for adults to come to terms with and anger with a late diagnosis may accompany the relief (Carr-Fanning 2015).

The advantages of receiving a diagnosis and the difference it can make were reported by a 32 year old woman in a study by Carr-Fanning (2015):

> " I think getting myself diagnosed has been a big thing. Because I'm only newly diagnosed. It's funny because when I went out and told people they, the whole pub, just laughed, and all my friends were going' 'you seriously didn't know? We've known for years!". And I was thinking 'why didn't they tell me?' Some people just thought I was a social butterfly, but it was more a wasp on acid. You know I was out the other night and my friend said 'you're hyper, you're just not manic anymore … which is just your personality'. So, she said that's still there, you're just not the extent of madness, you're able to sustain a conversation now".

Following diagnosis adults reported inadequate treatment services for adults with ADHD in Ireland and that services are always private and can often be costly. Support with disclosure of a diagnosis of ADHD, especially to employers, was also suggested in this study. Some of the adults wondered whether there are any benefits to making a disclosure, worrying that they would not receive any support. Also, whether it could have negative consequences with stigma and scapegoating and being blamed for things that go wrong.

Another issue commonly reported was the presence and impact of stigma when professionals and other people (including family members) do not accept ADHD as a legitimate diagnosis. As a result, people with ADHD may often feel they have to fight for recognition as having a disability because it is hidden and often discredited. Adults with ADHD highlighted the importance of recognition of ADHD as a legitimate diagnosis and the need for attention to the use of appropriate language. Conversely some adults may object to being labelled as "disabled" or "disordered". Similarly, the construction of people with ADHD as "suffering" may be objectionable to some as are derogatory and degrading words such as "lazy", "crazy" or "weird" used in association with ADHD.

Based on service users' reports, adults with ADHD need:

- Access to publicly funded services that provide diagnosis and treatment (a range of treatments including, but not limited to, medication)
- Psycho-education
- Practical training, education and supports (e.g. practical life skills, home, work, friends, etc.)
- Peer supportgroups
- Online fora
- Digital aids and educational materials
- Support for family and spouse/partner
- Reduction instigma
- Recognition for ADHD as a legitimate diagnosis in adults
- A focus on strengths and positive attributes that may be associated with ADHD in adults

In conclusion, adults with ADHD emphasise that:

- ADHD affects all aspects of a person's life.
- In terms of clinical guidelines, people with ADHD emphasise the need for diagnosis and treatment (multi-modal treatment)
- Service users being participants in the diagnosis and treatment process
- The need to combat stigma
- The need for clinical services to work in partnership with community-based organisations, CAMHS (when transitioning to adult services), higher education and employers.

Positive Impacts of ADHD

Whilst not always recognised because of the at times overwhelming challenges associated with ADHD, there is equally an association between ADHD and inherent skills. These bring a richness and creativity on a personal, social and economic basis as evidenced by the very many now well known successful entrepreneurs, artists and sports men and women for whom ADHD has been an integral part of their success.

These positive impacts are:

- Creativity
- Hyper-focusing skills
- Persistence
- Reactivity
- Lateral thinking
- Sensitivity to others

A recent World Health Organisation series of studies on ADHD included gathering opinions both on ability and disability concepts from ADHD experts as well as individuals diagnosed with ADHD, self advocates, immediate family members and professional caregivers. These studies were carried out to develop an International Classification of Functioning, Disability and Health Care sets for ADHD across all age ranges. They are designed to be used in conjunction with the International Classification of Diseases (ICD). The aim is that the description of functional categories in the ICF will create a common language that can be used by professionals from various disciplines to facilitate effective communication in the assessment and treatment of conditions.

One study involved experts in ADHD of whom 93% indicated positive attributes of ADHD. These included a high level of energy, flexibility, resilience, perseverance, creativity and a generally optimistic attitude. Individuals with ADHD were described as having a strong drive for things that interest and motivate them. They had an ability to inspire and energise those around them. They were fast learners, fast thinkers, fast decision makers and unafraid to take risks. Equally they were described as sociable, caring and sensitive to others (Schiffer 2015).

Likewise, in the study involving people with ADHD and their families, 71% indicated positive sides to ADHD. Strengths reported were high energy and drive function making it easier to engage in physical exercises such as sporting activities and to achieve personal goals. Creativity was reported and, in particular, an ability to think "outside the box". Hyper-focusing was considered a strength but depended on the activity being of interest to the individual. In addition, personal attributes such as agreeableness and willingness to work with others were regularly described (Mahdi 2017).

It is striking that the same positive attributes were indicated by individuals with ADHD, their families and by ADHD experts.

There is also evidence that adults with ADHD may use, often without recognition, skills and compensatory strategies to cope with symptoms prior to diagnosis and treatment (Canela 2017). A study of 32 outpatient attenders in a speciality care center in a Swiss University Hospital identified five categories of compensatory strategies. They were organisational, motoric, attentional, social and psychopharmacological. Interestingly, some people considered their symptoms to be useful. For instance, increased productivity as a consequence of organisational strategies used or being funny and entertaining in a crowd in some with hyperactivity who prefer crowds to 1:1 interactions because of their hyperactivity. These spontaneously generated coping skills are helpful, utilising the positive aspects of ADHD symptoms. They may also explain in part why so many are not diagnosed until well into adulthood.

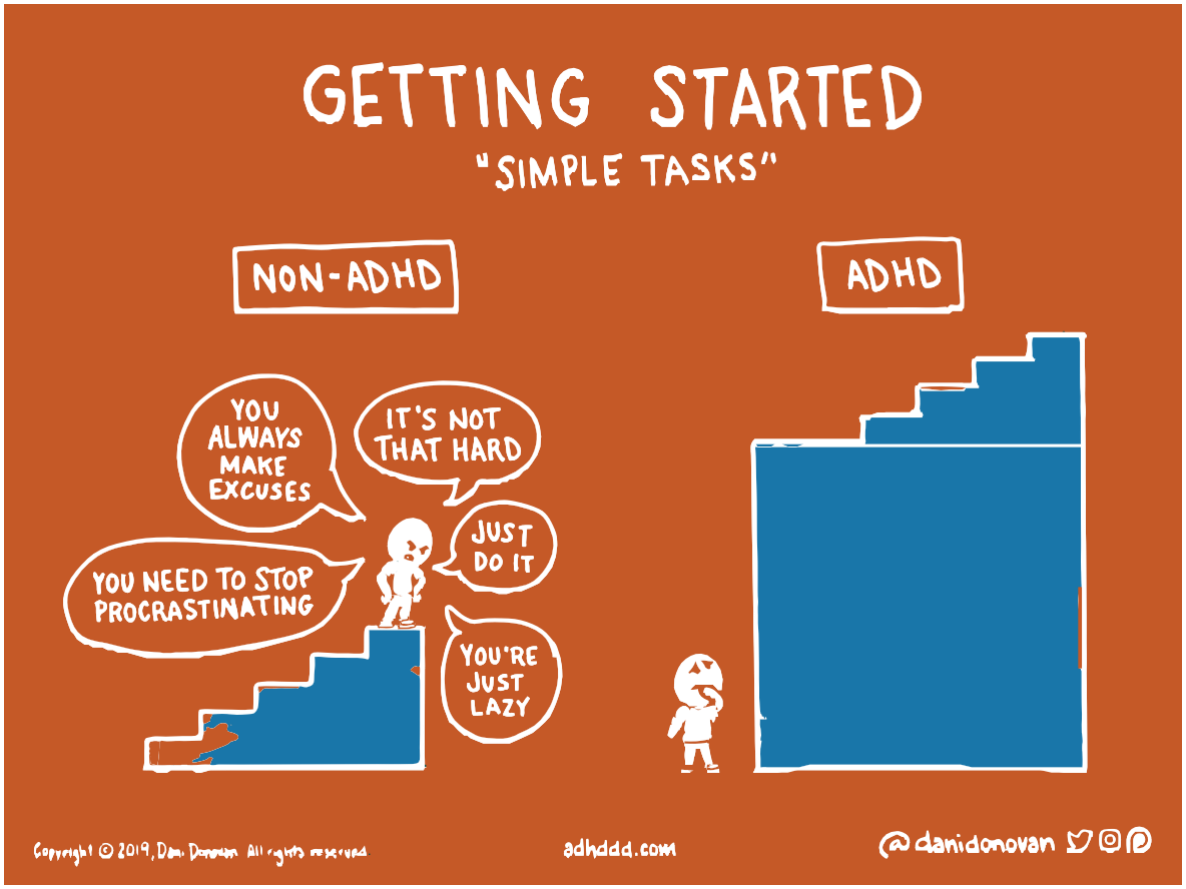
However, a qualitative Irish study on the impact of ADHD in adults highlighted the importance of practitioners being aware of the perceived positive and negative impacts of ADHD on people's lives. It also highlighted the need to be aware of the stigma associated with ADHD. It emphasised the difficulties faced by those not receiving a diagnosis until adulthood, citing especially the sense of burden and impairment associated with ADHD symptoms, feeling different to other people., having missed opportunities all exacerbated by ADHD specific stigma not only in the general population but also among clinicians (Watters 2013).

Stigma and ADHD

Stigma is a recognised negative force in the lives of people with mental disorders and is associated with lower levels of employment, poorer access to housing, poorer self-esteem and the stress of having the disorder (Hinshaw 2008).

Not all mental disorders attract the same stigmatising attitudes (Sadler 2012). A developmental review of stigma in ADHD showed that these attitudes occurred at all ages with social rejection particularly evident. This type of stigma, the desire for social distance from people with ADHD, is equivalent to that experienced by people with depression (Lebowitz2016).

A compounding factor has been stigmatisation by some adult mental health professionals in Europe, including in Ireland, in the form of the non-acceptance of ADHD as a valid diagnosis (Timini 2003, Kooij 2010, Carr-fanning 2015). This has occurred despite all the evidence to the contrary (Asherson 2005, Barkley 2002, Faraone 2006, Kooij 2010, for example).



Guiding Principles

The core values for this Clinical Programme are derived from the service user perspective and the evidence outlined in chapters 1-4 as well as contributions from other members of the Working Group and invited speakers as listed below:

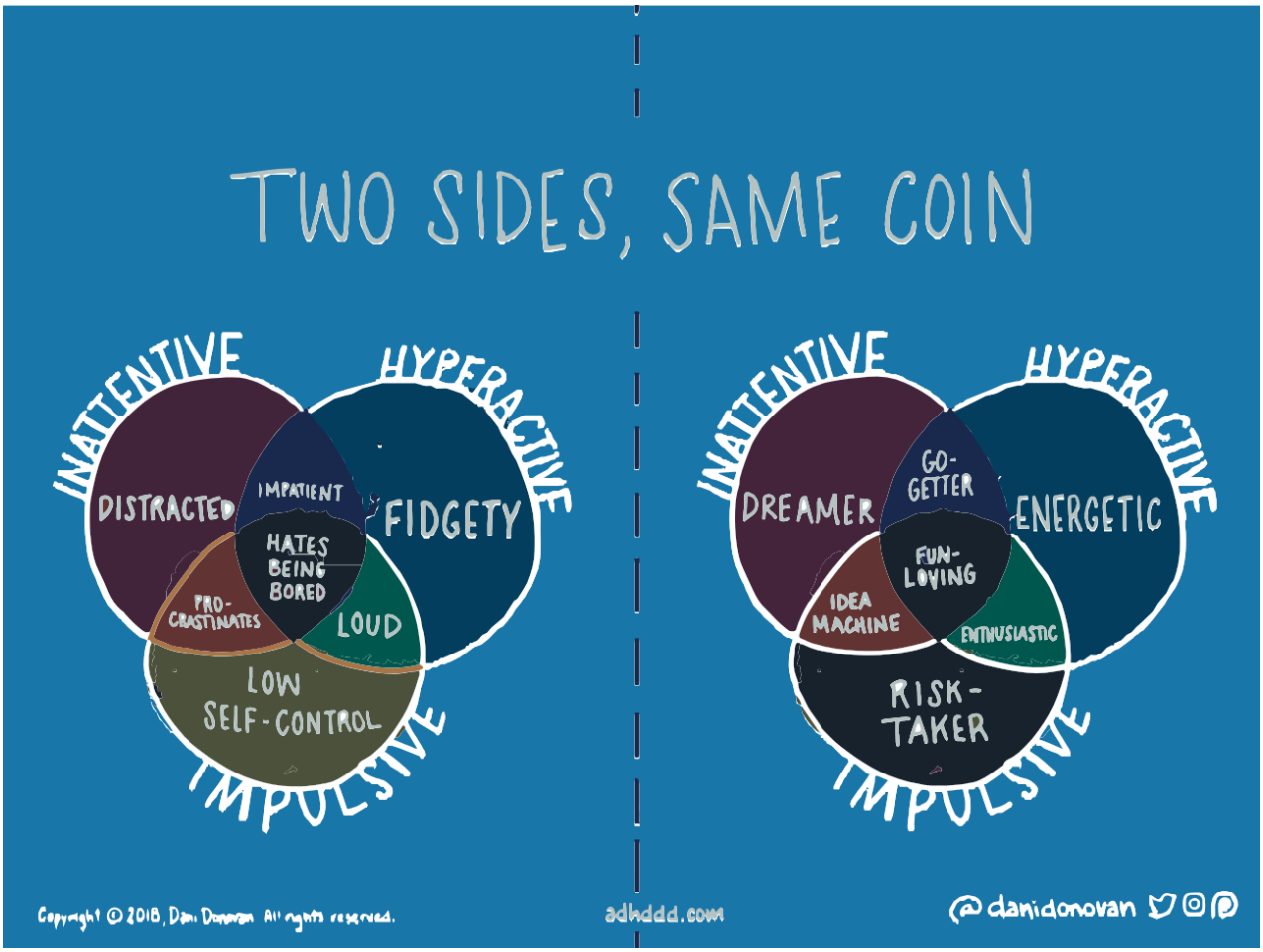
- Literature review
- Screening for ADHD symptoms in adults attending the Sligo/Leitrim adult mental health outpatient services
- Assessment and management of ADHD in Child and Adolescent Mental Health Services
- Assessment of adults with ADHD
- Treatment focused on empowerment

These core values require guiding principles or rules to ensure the development of a Model of Care based on these values. The principles provide the practical means of ensuring the core values, manifested as changes in attitude and behaviour with respect to service users, are built into the Model of Care. This, together with the core values of providing service users with access to skilled assessment and evidence based treatment will ensure a timely, collaborative and recovery focused service for adults with ADHD.

The **ten principles** on which this Model of Care is based are:

1. Assessment and treatment of symptomatic ADHD in adults which causes significant functional impairment will be provided within the public mental health services.
2. It will be based on AVFC and Sharing the Vision principles of multidisciplinary service delivery and joint working with the person to enable him/her to achieve the skills to manage the condition.
3. Underpinning this will be the provision of training for mental health professionals in the diagnosis and treatment of ADHD.
4. The recognition that many adults with ADHD who may be currently attending or have in the past attended the adult mental health services with, in particular, mood problems but also behavioural issues such as repeated self-harm (Asherson 2005) and this must be addressed.
5. Collaborative working with adult mental health services, particularly general adult, will be essential.
6. Additional resources will be required to deliver the recommended specific assessment format and interventions.
7. Service provision will be based on mental health professionals having the requisite skills (following training) rather than being prescriptive about the number of each discipline required.
8. The model of care will be developed to ensure geographic equity of access to assessment and treatment.
9. Collaborative working with General Practice will be an essential feature.
10. Integrated working across the health service and with non-health statutory and voluntary services will be a key component.

These principles will underpin the design of the Clinical Programme as described in the following chapters.



6.0 Proposed Model of Care

6.1 Current Service Provision for ADHD

Children and Young People: Children and young people up to their 18th birthday are assessed and treated for ADHD within the Child and Adolescent Mental Health Services (CAMHS). The service is provided by a consultant led team responsible for a defined catchment area. Management of ADHD is an important part of the core work of teams and accounts for almost one third of all referrals to CAMHS (HSE 2012-2013).

Children and adults with intellectual disability and co-morbid ADHD: Those with moderate or greater degrees of intellectual disability (ID) are assessed and treated in age related Mental Health Intellectual Disability (MHID) services. This is also seen as part of core work of their teams. Up to one third of people with mild ID and co-morbid ADHD may also attend these services if their needs indicate this is the more appropriate service (AVFC 2006). Generally people (both adults and children) with mild ID attend the relevant CAMHS or General Adult Psychiatry service (GAP). MHID is the subject of a HSE Service Improvement Project to ensure all geographic areas have such a service. Currently there are 16 teams for adults and 7 for children whereas there should be 29 and 17 respectively.

Adults without ID or mild ID: As previously stated, the only areas with a service are counties Sligo and Leitrim. A consultant with both an interest and an expertise in ADHD provides a small, mono-discipline (medical only) tertiary service in conjunction with the General Adult Psychiatry teams in Sligo and Leitrim. All referrals come from these teams and those referred remain under the care of their referring team.

6.2 Estimating Need

In devising this model of care the following were taken into account:

1. 5% of children have ADHD with 65% continuing to be symptomatic but 15% meeting diagnostic criteria for ADHD at 18 years, i.e. 1.5% of young adults
2. A longitudinal population based register study on the annual incidence of diagnosed ADHD in adults indicate just under 1 (0.9) per 1,000 adults could be expected (Polyzoi 2018)
3. The known functional and psychological impact of these symptoms in adulthood
4. The lack of any public services in Ireland for adults with ADHD except for the research based service developed in Sligo / Leitrim
5. Evidence from the Sligo / Leitrim service that 135 of 600 current attenders of general adult psychiatry services in that area screened positive for ADHD i.e. over 20% (Adamis 2017). Similar evidence from an earlier study of current attenders in the North Dublin Mental Health Services (Syed 2010). Both are similar to international findings (Rao 2011, Deberdt 2013)
6. It is likely that one in four children with ADHD will have a parent with ADHD (Faraone 2001). In some parents, ADHD may not have been formally diagnosed
7. The positive evidence base for the use of medication in adults with ADHD (Nutt 2007) and its recommendation by NICE (2008, 2013, 2018)
8. Emerging non-pharmacological interventions for ADHD in adults (Weiss 2009; Knouse 2015).

6.3 Design of the Model of Care

In designing the Model of Care, a number of service models were considered (UKANN Annual Conference 2017). These included:

1. Primary care service for adults with ADHD
2. Secondary care adult mental health service (General Adult Psychiatry)
3. A national ADHD service (tertiary level)
4. Tertiary level service for defined catchment area separate from local adult mental health service
5. Combined secondary care and tertiary care (ADHD Team) with close liaison and formal ways of working with adult mental health teams in their shared catchment area
6. Private adult ADHD service.

The National Clinical Programme is mandated to consider public service provision only. Therefore service models 1 through 5 above were compared in Table 6.1 to assist in deciding the most effective, practical and viable model of care to recommend.

The development of services over time was presented at the 2018 UKAAN conference. A common theme was that the standard direct referral ADHD service was not sustainable with waiting lists of up to 2 years described (North West Boroughs Service, UK). It is now changing its service model with a shift to primary care but finding this difficult to achieve. The Horsham service, also set up in 2008, had a waiting list of one and a half years and is now developing shared care protocols with AMHTs. Further afield in Spain the approach is training AMHTs to diagnose and treat ADHD in adults with 300 teams trained to date. In one service in the Netherlands, a life-span approach (cradle to grave) has been implemented but only in one site. In summary, there is no current widely used, stand alone model which is sustainable over time.

Table 1: Comparison of Public Service Models

Service	Primary Care	Tertiary Care National	Secondary Care Local	Combined (2&3)	General Adult Psychiatry
Domain					
Quality of Assessment	High but no medical input	High	High	High	May be inconsistent
Quality of non-pharmacological Intervention	Limited	May be limited by distance	High	High	Inconsistent
Pharmacological Intervention	None	Available	Available	Available	Available
Referral Path	Direct	Direct or Secondary Care	Direct	Through local CMHT	Direct
Waiting List	Long	Long	Long	Can be managed effectively	Some as other referrals

Service	Primary Care	Tertiary Care National	Secondary Care Local	Combined (2&3)	General Adult Psychiatry
Continuity of Care for ADHD	Fragmentation likely	Fragmentation likely	Fragmentation likely	Assured	Assured
Treatment of co-morbid mental illness including access to inpatient care	Limited	Limited	Limited	Assured	Assured
Monitoring of Medication	Medication not prescribed	May be limited by distance	Assured	Assured	May be inconsistent
Throughput	Backlog likely	Backlog likely	Backlog likely	Assured	Same as other patients
Training	For primary care level cases	Assured	Assured	Assured	Difficult unless special interest
Sustainable	Limited by demand	Not likely for reasons above	Not likely because of demand	Assured	Assured

Adapted from: Vaze A. update on the Leicestershire Adult ADHD Service presented at UKAAN Annual Conference 2017.

It is clear from the table that there is no gold standard service model. The best option appears to be the combined secondary and tertiary care model covering a defined catchment area based, as much as possible, on the secondary care mental health service structures. This model should provide:

- High quality ADHD specific assessment and treatment
- Continuity of care for ADHD patients including annual review of ADHD specific medication
- Its integrated working with the secondary care adult community mental health teams should ensure identification and treatment of co-morbid or separate mental illness both initially and subsequently
- High quality training for all professionals in the local mental health service in assessment and treatment of ADHD as required
- Thereby assisting local teams to identify possible ADHD in patients currently attending or newly referred but not specifically for ADHD
- It should be able to maintain throughput and, therefore, be sustainable
- However, the overall effect on referrals to AMHTs is unclear and would need evaluation.

The model will operate as follows:

1. New referrals of people for assessment of possible ADHD will be seen by their local Adult Mental Health Team (AMHT). They will be fully assessed for co-morbid mental health illness or other mental illnesses. They will be screened using the ASRS (Kessler 2006) and WURS (Ward 1993)
2. Other new referrals or current attendees with symptoms suggestive of ADHD should also be screened
3. Those screening positive on both will be referred to the ADHD Adult Clinic to be established in each mental health area for detailed assessment using the DIVA (Kooij 2019) followed by a feedback session

to discuss the outcome of assessment, whether it confirms ADHD or not. The discussion with people confirmed to have ADHD will include outlining the recommended interventions. Those with significant mental illness, including significant co-morbid mental illness, will be treated by their AMHT. When improved they should be re-screened and, if they remain positive, be referred to the ADHD Clinic

4. The interventions will be provided through the ADHD Clinic.

These will include:

- Psycho- education
- Medication (initiation and stabilisation)
- ADHD specific Cognitive Behaviour Therapy (CBT) in group format
- OT input on practical techniques to manage symptoms and improve function.

As part of this the person will be advised as appropriate on:

- Educational support available in 3rd level education
- Coaching opportunities
- Supports provided by ADHD Ireland
- Employment supports.

All people attending the ADHD clinic will remain under the care of their AMHT. Discharge from the ADHD Clinic will be to the person's AMHT. Where the person does not require follow up by the team, the person will be discharged to his / her GP with the AMHT copied on that letter. Any re-referrals should be to the patient's AMHT to determine whether the re-referral is ADHD related or not.

The respective tasks of AMHTs and ADHD Clinics are:

i. Adult Mental Health Teams

- AMHTs will be expected to carry out the usual assessment, identify any mental illness and treat as required. They will also administer the two ADHD screening tools, which are straight-forward and completed by the person him/herself.
- Online access to screening tools will be provided.
- Each team should identify at least two people (of any discipline) to be trained in the administration of the screening tools.
- The consultant will, as part of their usual practice with all referred patients, consider the screening outcome in conjunction with the rest of the person's assessment and, if indicated, refer to the ADHD clinic.

ii. Mental Health Service ADHD Clinic

Each Mental Health Service will be provided with additional resources to set up an ADHD Clinic. This is dependent on the Clinical Programme receiving the necessary funding for allocation to the local service.

PROPOSED MODEL OF CARE

When established, each clinic will be responsible for:

1. Completing an assessment on those screening positive based on the Diagnostic Interview for Adult ADHD (DIVA)
2. Delivering the interventions:

- Psycho-education
- Medication: initiate and stabilise dose and then refer back to GP / Adult Mental Health Team as indicated for continued prescribing
- Group Cognitive Behavioural Therapy (CBT) for ADHD
- Occupational Therapy (OT) intervention.

6.4 Young People Transitioning From CAMHS

A modified referral pathway is to be used for young people with ADHD who may need to transition to adult services on their 18th birthday.

i. Each such young person should have a formal re-evaluation of his / her ADHD status carried out by CAMHS one year prior to their 18th birthday to ensure diagnostic criteria for ADHD are met and/or an on-going need for ADHD specific medication established.

ii. If being referred, a named CAMHS clinician should undertake the role of transition lead to ensure transition is smooth and provide support for the young person and their family during this time.

iii. Transition is an elective process starting 6/12 months before it actually occurs. During this period the ADHD Clinic and relevant local AMHT will jointly consider the referral and make a decision on which service should see the young person first. The decision will be guided by and based on the following criteria:

- Where the young person meets diagnostic criteria for ADHD and/or needs to continue on ADHD specific medication and has no mental illness of moderate or greater severity (co-morbid with ADHD or otherwise) the ADHD Clinic will take the lead.
- Where the young person has significant mental illness/es as described above, the AMHT will take the lead.
- Where is it difficult to make a precise judgement despite the provision of all necessary information by the CAMHS Team, the two services will jointly agree which one will accept the lead role. This will be on the clear understanding that the accepting service can refer easily to the other, should this prove necessary or more appropriate.

iv. A key factor in this modification of the referral process to facilitate access for young people transitioning to adult services is that both the AMHT and the ADHD Clinic are aware of the young person and will ensure easy cross-referral if clinically indicated.

6.5 Older Adults

Whilst most people requiring this service will be age 18 – 64 years old, people over 65 years who are cognitively intact and under the care of a psychiatry of old age team (POA) may be seen for assessment in the ADHD Clinic if screening positive for ADHD. Where appropriate, access for interventions will be provided. Otherwise the POA Team will be advised on possible interventions for it to coordinate or deliver.

6.6 Annual Review

All people on medication for ADHD whose dose has been stabilised will be followed up by their GP for prescribing purposes and monitoring of physical health. Each person still on medication will be recalled to the ADHD Clinic on an annual basis as recommended by NICE (2013). This is to check whether the person continues to meet the diagnostic criteria for ADHD and hence requires medication for ADHD. If they do, the GP will be advised to continue medication and the relevant Adult Mental Health Team copied on the letter. This process of annual review will continue for so as long as the person meets the criteria for ADHD and is continuing to take medication forit.

6.7 Resource Implications

The functions of the ADHD clinic are additional and so will require additional resources as follows:

- Consultant psychiatrist: 1 WTE for 300,000 – 400,000 working age adult population. Where there is 1 WTE consultant the team will require pro-rata:
- Administration Support 1 WTE
- Mental Health Nurse (Clinical Nurse Specialist) 1 WTE
- Occupational Therapist (Senior) 1 WTE
- Psychologist (Senior) 1 WTE

Team premises should be provided by the local mental health service.

The clinical components of the **Model of Care** are outlined in the next two chapters as key stages in the clinical pathway for adults with ADHD. These include referral criteria; mode of referral; assessment process; outcome of assessment; treatment. The clinical pathway is then shown diagrammatically to indicate the sequencing of the various components of assessment and treatment (Figure 1).

6.8 Summary on Model of Care

There is no gold standard service model that meets the needs of adults diagnosed with ADHD. In this chapter a number of options have been considered and one service model recommended as closest to meeting the needs of patients i.e. the combined secondary and tertiary care model covering a shared catchment area. The referral pathway for young people transitioning from CAMHS has been modified to ease the process for them.

It is proposed to set-up three demonstration sites to test the recommended model of care. An Oversight, Support and Implementation Group (NOIG) will be established to monitor the operation of these services. Modifications to aspects of the model can be made if identified as necessary by this group. This process will guide the setting up of other ADHD Clinics nationally.

7.0 The Assessment Process

The components of the assessment process for adults with possible ADHD are:

- Referral criteria
- Mode of referral
- Pre-assessment screening
- ADHD assessment
- Identification of co-morbidities
- The diagnosis
- The post assessment discussion

Referral criteria

These are taken from the NICE Guidelines (2008, 2013, 2016, 2018) and Quality Standards (2013) and have been modified to meet Irish mental health service structures as mandated by AVFC (2006).

1. Adults, including those with mild intellectual disability, with symptoms suggestive of ADHD associated with impairment of at least moderate severity who do not have a prior diagnosis of childhood ADHD.
2. Adults who were diagnosed and treated for ADHD as children or adolescents and present with current symptoms of ADHD of at least moderate severity.
3. Young people at age 18 with ADHD receiving treatment and care from CAMHS or paediatrics who continue to have significant symptoms of ADHD or other co-existing mental health conditions who require treatment.

Mode of Referral

Referrals for criteria 1 and 2 should be made by the person's General Practitioner to the relevant local adult mental health service (General Adult or Psychiatry of Old Age).

Young people transitioning from CAMHS or paediatric services should be referred by their child psychiatrist or paediatrician for joint consideration by AMHT and the ADHD Clinic as outlined in Section 6.4; one of which, following consideration of the clinical information, takes the lead.

Initial Adult Mental Health Team (AMHT) assessment

The primary purpose of referral to AMHTs is to identify and treat any significant mental illness. This is recommended because of the high rate of co-morbidity of ADHD with mental illnesses. There is also the possibility of the symptoms of a mental illness mimicking those of ADHD.

In addition, referrals for possible ADHD should be asked to complete two self-rating scales. Likewise any other newly referred patient the clinician feels may have symptoms of ADHD should complete these scales. Two scales are recommended to minimise the risk of false positives.

(i) The Adult Self Report Scale (ASRS: Kessler 2005) Parts A and B to identify current ADHD symptoms. The ASRS is an official instrument of the World Health Organisation and has been used in large scale

epidemiological studies to identify possible ADHD. For the purposes of screening the 6 questions in

Part A are most predictive of the disorder. A score of 4/6 often/very often replies indicates further investigation for ADHD is warranted. The ASRS has a sensitivity of 68.7% and a specificity of 99.5% (Kessler 2005).

(ii) The Wender Utah Rating Scale (WURS : Ward 1993) is a retrospective self-report instrument for adults consisting of 25 questions. Each item is rated 0 (not at all) to 4 (very much). It focuses on childhood ADHD. A total score of 36 indicates possible ADHD.
The WURS has a high level of sensitivity and hence it is usefully combined with the ASRS.

Those screening positive on both scales, indicating both significant current and past ADHD symptoms, will then be seen at the ADHD clinic.

It should be explained to people in advance of undergoing screening that a positive result on both scales is required to proceed to formal assessment.

ADHD Assessment

ADHD is diagnosed clinically in adults with evidence of typical symptoms. In making the diagnosis the three questions to be answered are:

- Did the symptoms begin during childhood and have they persisted throughout life?
- Can these symptoms not be better explained by another psychiatric diagnosis?
- Are they associated with moderate or severe psychological, social, educational or occupational impairments?

ADHD is a clinical and behavioural phenotype so requires evaluation through a diagnostic interview of the patient with supportive evidence from informants (Asherson 2005). Other supportive evidence such as school reports is especially helpful. The diagnosis should be made by a psychiatrist with the requisite training in the diagnosis and management of ADHD. The assessment process is the usual psychiatric assessment consisting of current complaints, full psychiatric history with special attention to both the developmental and psychiatric history and examination of the mental state. Information from relevant others (the collateral history) is an essential component of the assessment and may be obtained by another member of the team trained in the assessment and treatment of ADHD. As the assessment process by necessity must include careful and time consuming enquiry into the presence and absence of certain symptoms, this joint approach would increase efficiency. NICE (2008) summarises the components of assessment as:

- A full clinical and psychosocial assessment of the person; this should include discussion about behaviour and symptoms in the different domains and settings of the person's everyday life.
- A full developmental and psychiatric history
- Assessment of the person's mental state
- Observer reports.

Diagnosis should be made using DSM-5 criteria (APA 2013). DSM-5 defines ADHD as a persistent pattern of inattention and/or hyperactivity that interferes with functioning or development. The criteria for diagnosis are shown in Box 1 opposite.

Figure 1: DSM 5 criteria – Adult ADHD

Box 1 **DSM 5 criteria - Adult ADHD**

- **Criteria A:** 5 or more symptoms of inattention or hyperactivity-impulsivity
- **Criteria B:** Several symptoms present by the age of 12
- C**riteria C:** Several symptoms present in two or more settings
- **Criteria D:** Symptoms interfere with or reduce quality of social, educational or occupational functioning
- **Criteria E:** Symptoms are not better explained by another condition, such as mood disorder

American Psychiatric Association. Diagnostic and Statistical Manual (DSM) of Mental Disorders, 5th Edition 2013

The symptoms of inattention and hyperactivity/impulsivity are shown in Boxes 2 and 3 respectively.

Figure 2: DSM 5: ADHD symptoms – Inattention

Box 2 **DSM 5: ADHD symptoms**

- **INATTENTION (9 symptoms)**

a) Lack of attention to details, make careless mistakes

b) Difficulty sustaining attention

c) Does not listen when spoken to directly

d) Trouble completing or finishing jobs or tasks

e) Problems organising tasks and activities

f) Avoids or dislikes sustained mental effort

g) Loses and misplaces things

h) Easily distracted

i) Forgetful in daily activities

Figure 3: DSM 5: ADHD symptoms – Hyperactivity

Box 3 DSM 5: ADHD symptoms

- **HYPERACTIVITY (6 symptoms)**

a) Fidgetiness (hand or feet) or squirming in seat

b) Leaves seat when not supposed to

c) Restless or overactive

d) Difficulty engaging in leisure activities quietly

e) Always "on the go"

f) Talks excessively

- **IMPULSIVITY (3 symptoms)**

g) Blurts out answers before questions have been completed

h) Difficulty waiting in line or taking turns

i) Interrupts or intrudes on others when they are working or busy

Boxes 1-3 UKAAN Slides

DSM-5 identifies four possible presentations:

- Combined (inattention and hyperactive/impulsive)
- Predominantly inattentive
- Predominantly hyperactive/compulsive
- ADHD in "partial remission".

The domains of impairments include:

- Social relationships
- Education/occupation
- Coping with everyday activities

As part of the assessment, impaired functional domains should be sought. Impairment in at least two should be identified to confirm the diagnosis. Identification of these impairments also helps goal setting, an important part of treatment. The NICE Guidelines 2008 define impairment as:

- The degree to which most people would consider they require some form of medical, social or educational/occupational intervention.
- That without intervention there is likely to be long term adverse implications for the person.
- Impairment should be pervasive i.e. occurs in multiple settings and be of at least moderate severity.

Associated features that support the DSM-5 diagnosis of adult ADHD are:

- Development traits: mild delays in language, motor or social development are not specific to ADHD but often co-occur
- Emotional symptoms: low frustration tolerance, irritability, ***mood lability***
- Educational problems: even in the absence of a specific learning difficulty, academic or work performance is impaired
- Cognitive deficits: may exhibit cognitive problems on tests of attention, executive function and memory - although tests are not sufficiently sensitive or specific to serve as diagnostic indices.

Given the detailed nature of the assessment together with the need to guide individuals to ensure all relevant symptoms are explored, this Clinical Programme recommends the use of the Diagnostic Interview for Adult ADHD (Kooij 2019). This can be downloaded from www.divacentre.eu. Whilst DIVA-2 (based on DSM 4R criteria) was available to download free of charge, a small once-off payment is now required by the DIVA foundation. This is because the American Psychiatric Association has increased its licence fee for the use of DSM-5 criteria 10 fold.

Identification of Co-morbidities

Diagnosis is complicated by the frequent occurrence of comorbidity. An essential part of the ADHD assessment is the identification of any co-morbid disorders. This requires the clinician to determine whether the mental health problems are a component of the ADHD or a separate comorbidity. If the former, the treatment is for ADHD; if the latter, the nature and severity of the comorbidity will determine which is treated first.

The co-morbidities associated with ADHD in adults include:

- Anxiety
- Mood symptoms:
  - emotional lability
  - low self esteem
  - depressive episode
- Substance use disorder
- Eating disorders
- Personality disorder (emotionally unstable / borderline)
- Autism spectrum disorder
- Sleep disorders

Appendix 3 is a useful checklist compiled by the UK Adult ADHD Network (UKAAN) to assist in differentiating between ADHD associated symptoms and separate co-morbid mental disorders.

The diagnosis

For adults with possible ADHD, the differential diagnoses to be considered include mainly non-psychotic mental disorders. These are:

- Anxiety
- Depression
- Borderline/emotionally unstable personality disorder
- Substance misuse disorder

Whilst developmental disorders are important in children, they are less relevant in adults but nevertheless may need to be considered. These include specific learning disabilities, dyspraxia and autism spectrum disorder.

In considering both the diagnosis and subsequent treatment plan, it is recommended that a formulation addressing pre-disposing, maintaining and protective factors is drawn up. It is useful in determining the individual treatment plan enabling targeting of relevant issues in consultation with the individual.

Post assessment discussion

The person usually attends for assessment because he/she is hoping ADHD is the cause of certain troublesome symptoms or problems. If the diagnosis is not ADHD, it is important to provide information on what the cause, if identified, is and discuss management options.

Where the diagnosis is confirmed as ADHD, there is often a period of relief at having an explanation for why life has been so difficult. This may be followed by feelings of anger at having the diagnosis or that it was not identified sooner (Hansson Hallerod 2015). Post diagnosis counselling is, therefore, an important component of the treatment plan and should be offered early. It should cover three aspects:

1. Psychoeducation about ADHD in adults. This should include a review of the symptoms indicative of the diagnosis and how it is a continuation from childhood symptoms.
2. The patient's reaction to the diagnosis focusing on the need to re-evaluate past perceived failures, the need to adjust to the diagnosis and it being seen as a positive development bringing the significant possibility of achieving goals in the future (contingent on a commitment to engagement with treatment).
3. Education on the treatment options based on a multimodal approach. It should be explained that medication is still considered the first line of treatment in conjunction with non-pharmacological approaches to teach the individual adaptive strategies as part of the overall treatment plan.

Patients currently attending AMHTS

There is evidence that significant numbers of current attendees may have unrecognised ADHD (Roa 2011, Deberdt 2015). To assist in identifying people with possible ADHD, it will be a key part of the role of the ADHD Clinic professional staff to organise training in adult ADHD for all members of AMHTs.

Where it is considered that a current attendee may have ADHD and is mentally stable, the two screening scales should be administered. If both are positive, the person should be offered referral to the ADHD Clinic in the usual way.

8.0 Treatment

There has been controversy not only about the diagnosis of ADHD, now refuted (Vidal Gshoda 2012, Jensen 2016, Morgensterns 2016, De Cresenzo 2017, Lopez Pinar 2018) but also its treatment with stimulant drugs. The main concerns were the possibility of people developing drug misuse or diverting stimulant medication (Singh 2008). However, ADHD itself is associated with an increased rate of substance misuse disorder (Elkins 2007, Wilers 2008). Chang et al using the Swedish national registers of individuals born between 1960 and 1998 (about 39,000 people) found ADHD was not associated with an increased rate of substance misuse. They concluded that the data suggested a long-term protective effect on substance abuse (2013). The recent publication of an international consensus statement on screening, diagnosis and treatment of substance use disorder patients with ADHD provides invaluable evidence based guidance (Crunelle 2018).

Notwithstanding this, professionals and practitioners have a responsibility to make clinical decisions appropriate to the circumstances of the individual in consultation with them (NICE 2018). Specifically, for those with ADHD where there is a concern about substance misuse or diversion a risk assessment addressing these issues in particular is recommended. A clinician may choose not to prescribe stimulant medication for specific reasons including concerns about substance misuse or diversion.

An adult who has just received a diagnosis of ADHD is in a very different situation compared to a child with ADHD. The adult has sought the diagnosis so has insight into his/her life being less than satisfactory and, crucially, wishes to change it. Ultimately he/she is hoping for a functional change: psychologically, socially, educationally/occupationally (BAP 2007).

Central to treatment is a discussion with the person on options available and recommended with the person considering:

(i) If he/she wishes to commit to treatment

(ii) And, if so, which of the options to choose

Following this a jointly agreed individual care plan is drawn up by the ADHD specialist with the person.

Treatment of adults with ADHD should be multimodal (Kolar 2008; Knouse 2008; Murphy 2005; Weiss 2008) i.e. a combination of pharmacological and psychosocial interventions the purposes of which are to reduce core symptoms of ADHD (inattention, hyperactivity and impulsivity and also mood lability) whilst teaching the individual skills and strategies to overcome functional impairments.

The NICE Guidelines (2018) recommend:

1. Offer medication to adults with ADHD if their ADHD symptoms are still causing a significant impairment in at least one domain after environmental modifications[1] have been implemented and reviewed.
2. Consider non-pharmacological treatment for adults with ADHD who have:
   - Made an informed choice not to have medication
   - Difficulty adhering to medication
   - Found medication to be ineffective or cannot tolerate it.
3. Consider non-pharmacological treatment in combination with medication for adults with ADHD who

have benefited from medication but whose symptoms are still causing a significant impairment in at least one domain.

4. When non-pharmacological treatment is indicated for adults with ADHD, offer the following as a minimum:

   - A structured supportive psychological intervention focused on ADHD
   - Regular follow-up either in person or by phone

Treatment may involve elements of or a full course of CBT.

[1]*Environmental Modifications :*
Environmental modifications are changes that are made to the physical environment in order to minimise the impact of a person's ADHD on their day-to-day life. Appropriate environmental modifications will be specific to the circumstances of each person with ADHD and should be determined from an assessment of their needs. Examples may include changes to seating arrangements, changes to lighting and noise, reducing distractions (for example, using headphones), optimising work or education to have shorter periods of focus with movement breaks (including the use of "I need a break" cards), reinforcing verbal requests with written instructions.

(NICE Guidelines 2018)

The treatment options will now be described in the following sequence:

- ADHD specific medication
- Treatment of co-morbidities
- Non-pharmacological interventions delivered by the ADHD Clinic
- Other important interventions.

8.1 ADHD SpecificMedication

Drug therapy is the first line treatment recommended by NICE (2018) for treatment of adults with ADHD. There is a good evidence base to show the effectiveness of pharmacotherapy. For example methylphenidate, a stimulant; lisdexamfetamine, a stimulant, (Adler 2008); atomoxetine, a non-stimulant, (Adler 2009; Cunill 2013) each has a good evidence base. Cortese (2018 and 2020) gives a good overview of pharmacologic treatment of ADHD.

The updated NICE guidelines recommend that all medication for ADHD should only be initiated by a healthcare professional with training and expertise in diagnosing and managing ADHD (2018).

NICE (2018) has amended its guidance on medication choice to:

1. Offer lisdexamfetamine or methylphenidate as first-line pharmacological treatment for adults with ADHD.
2. Consider switching to lisdexamfetamine for adults who have had a 6-week trial of methylphenidate at an adequate dose but have not derived enough benefit in terms of reduced ADHD symptoms and associated impairment.
3. Consider switching to methylphenidate for adults who have had a 6-week trial of lisdexamfetamine at an adequate dose but have not derived enough benefit in terms of reduced ADHD symptoms and associated impairment.
4. Consider dexamfetamine for adults whose ADHD symptoms are responding to lisdexamfetamine but who cannot tolerate the longer effect profile.
5. Offer atomoxetine to adults if:

- they cannot tolerate lisdexamfetamine or methylphenidate or
- their symptoms have not responded to separate 6-week trials of lisdexamfetamine and methylphenidate, having considered alternative preparations and adequate doses.

Further medication choices

6. Obtain a second opinion or refer to a tertiary ADHD clinic service if ADHD symptoms in an adult are unresponsive to one or more stimulants and one non-stimulant.
7. Do not offer any of the following medication for ADHD without advice from a tertiary ADHD service:

- Guanfacine for adults
- Atypical antipsychotics in addition to stimulants for people with ADHD and coexisting pervasive aggression, rages or irritability
- Medication not included in recommendations 1-5
- Medication choice – people with coexisting conditions.

8. Offer the same medication choices to people with ADHD and anxiety disorder, tic disorder or autism spectrum disorder as other people with ADHD.
9. For adults with ADHD experiencing an acute psychotic or manic episode:

- Stop any medication for ADHD
- Consider restarting or starting new ADHD medication after the episode has resolved, taking into account the individual circumstances, risks and benefits of the ADHD medication.

The main ADHD drugs used in adults are licenced for use in children and young people with ADHD, this is not the case for adults or may only apply when the drug has been started in childhood.

The Medical Protection Society's (MPS) recommendations for prescribing off–label use of medications is helpful and should be followed when prescribing for adults with ADHD. The MPS highlights the following points:

- Ensure the most suitable drug is being prescribed for each patient and that there is no reasonable alternative that has marketing authorisation.
- Be satisfied that there is a sufficient evidence base or experience of using the medicine to demonstrate its efficacy and safety.
- Understand the known attributes of the drug and each doctor's responsibility for ensuring monitoring and follow up. Record each decision in the patient's record.

As a first step, there should be an in-depth discussion with the patient outlining the benefits of drug treatment. This should include which drugs are available, potential side effects, the need for a full medical assessment pre-treatment and on-going monitoring until a stable dosage has been established followed by an annual review to determine if the treatment should be continued.

Before starting drug treatment, a full medical assessment should be completed in addition to a full mental health and social assessment. The medical assessment should include:

- Full history and physical examination

  - assessment of history of exercise syncope, undue breathlessness and other cardiovascular symptoms
  - heart rate and blood pressure (plotted on a centile chart)
  - height and weight
  - examination of the cardiovascular system
  - family history of cardiac disease
  - current medication

- An ECG is not needed before starting stimulants, unless the person has any of the features listed below or a co-existing condition that is being treated with a medicine that may pose an increased cardiac risk (NICE 2018, amended 2019).

  - history of congenital heart disease or previous cardiac surgery
  - history of sudden death in a first degree relative under 40 years
  - shortness of breath on exertion compared to peers
  - fainting on exertion or in response to fright or noise
  - palpitations (see NICE 2019)
  - chest pain suggestive of cardiac origin
  - signs of heart failure
  - murmur on auscultation
  - blood pressure classified as hypertensive (see NICE 2018 guidance on hypertension)

- Risk assessment for substance misuse and drug diversion.

(NICE Guidelines 2008, 2018, 2019)

The medical assessment would normally be carried out by the person's General Practitioner with the ADHD Clinic completing the risk assessment for substance misuse and drug diversion.

Drug treatment for adults with ADHD should be initiated by a psychiatrist (with training and expertise in the assessment and treatment of ADHD: NICE 2018). In the UK, nurse prescribers specialising in ADHD can undertake this role. This might be considered for the future as the Clinical Programme becomes established. Methylphenidate, a controlled drug, has recently been licensed for prescription by registered nurses in Ireland (Misuse of Drugs Regulations 2017). The other drugs listed are not controlled drugs so could be potentially prescribed by nurse prescribers (as could methylphenidate) if included in their clinical prescribing agreement (CPA) and signed off by their consultant and the relevant drugs and therapeutic committee.

Typical improvements reported with treatment include less restlessness and fidgeting; improved ability to sustain effort for tedious tasks; improvement in initiating and completing tasks; better concentration for reading and less ceaseless unfocused mental activity.

This Clinical Programme does not include full details on prescribing, contraindications, side effects and adverse effects/warnings for which the reader should refer to the Irish Medicines Formulary (IMF 2018).

Annual Review

Once the patient has been stabilised on medication and has completed the recommended psychosocial interventions, he/she should be discharged to their GP who should continue to prescribe the medication advised by the specialist. However, in line with NICE 2013 Quality Statement Seven on Annual Review of Drug Treatment, this Clinical Programme includes the recommendation that adults with ADHD who are taking drug treatments for ADHD have a specialist review annually to assess their need for continued medication.

Issues to be addressed in this review should include:

- Preference of the individual regarding medication, including stopping or changing it
- An assessment of clinical need (including whether medication has been optimised), benefits and side effects with the patient
- Effect of any missed doses, planned dose reductions, brief periods of no treatment as reported by the patient together with preferred pattern of use
- Effect of medication on existing or new mental health, physical health or neurodevelopmental conditions
- Need for additional psychosocial and occupational supports
- Consider trial periods of stopping medication or reducing the dose when assessment of the overall balance of effects and harms suggests this may be appropriate.

(NICE 2018)

GPs should be advised to prescribe for one year periods subject to the outcome of each annual review.

8.2 Treatment of Co-morbidity

An essential part of assessment is to identify any comorbid disorders and then determine if the symptoms are part of ADHD, a reaction to untreated ADHD or independent of ADHD. If the latter, a clinical judgement based on an assessment of symptoms should be made on which condition to treat first.

Considering each of the common comorbidities in turn:

1. Anxiety symptoms/disorder

Those occurring independently of ADHD should be treated using a psychological approach. Treatment for ADHD can also be started. Of note, atomoxetine has been shown to be effective in ADHD with social phobia (Adler2009).

2. Mood disorders

Treat the most severe disorder first. If moderate or severely depressed, the treatment of depression is the first priority. Otherwise ADHD may be treated first and associated mood symptoms may also respond.

3. Substance use disorder

Substance use disorder (SUD) and co-morbid adult ADHD is well recognised (Biederman 1995; Faraone 2007; Wilens 2007). There is controversy about the nature of the relationship; whether ADHD leads to substance misuse as a form of self-medication or if the two conditions have the same neurobiological basis.

The College of Psychiatrists of Ireland's Faculty of Addiction Psychiatry reports little current abuse of stimulants by young people presenting to services. It noted there appears to be little "street" value for these medications. However, it also noted the recent dramatic increase in stimulant use and misuse in the US. It concluded that a well run ADHD service using careful assessments will reduce the risks of misdiagnosis and inappropriate prescription of stimulant medication.

The implications for treatment are that those who are actively misusing substances including alcohol or at risk of doing so are also likely to misuse or divert stimulant medication. It is recommended that the immediate release or modified release stimulants that can be easily injected or insufflated are avoided (NICE 2018). Atomoxetine may be used in this situation and, of note, it has been shown that atomoxetine improved core ADHD symptoms in people with alcohol misuse even if they resumed drinking (Wilens 2008).

Screening for ADHD in young people and adults attending substance use disorder services should be carried out routinely. In line with this, psychiatrists working in these services should be trained in the assessment and management of ADHD. Specific substance use treatment programmes should be available for those with co-morbid ADHD in SUD services (Crunelle 2018).

4. Eating disorders

Bulimia, binge eating disorder and anorexia nervosa bingeing/purging sub type are now known to be associated with ADHD (Biederman 2007, Svedlund 2017). Specific ADHD treatment may impact on the eating disorder. It may be that the ADHD symptoms of impulsivity and executive dysfunction are contributing to or the cause of the underlying disordered eating behaviours. It may also be that depression, anxiety and low self-esteem, common in both eating disorders and ADHD, are relevant (Quinn 2008).

5. Sleep disorders

Whilst there is little research into sleep disorders in adults with ADHD, 70% of children with ADHD report sleep problems. These are characterised by longer sleep onset latency, shorter total sleep time and lower sleep efficiency (Cortese 2009). The theoretical basis for the relationship between sleep and ADHD is the overlap between the cortical and brainstem regions involved in sleep-wake regulation and in ADHD.

Delayed Sleep Phase disorder: The commonest sleep disorder is delayed sleep phase syndrome (DSPD) in which the body clock is several hours behind external time due to a delay in melatonin secretion, an average of 105 minutes in adults and 45 minutes in children with ADHD (van Veen 2010). This leads to falling asleep late, waking up very late and feeling awake late at night. Treatment involves good sleep hygiene, the most important point of which is getting up at the same time every morning rather than the time of going to bed. Melatonin can improve sleep in people with DSPD (Szeinberg 2006, Van der Heijden 2007).

Restless Legs Syndrome (RLS): Up to 44% of people with ADHD may have restless legs syndrome (Cortese 2013). It is important to always enquire directly for RLS (Ferri 2007) particularly since treatment with iron in those with low ferritin can be very helpful.

Obstructive Sleep Apnoea (OSA):

18-65% of children with ADHD have OSA, mostly mild (Cortese 2013). There is very little research on OSA in adults. With mild OSA, a mandibular advancement splint may help the sleep disturbance.

ADHD drugs and sleep: Stimulant ADHD drugs can contribute to sleep problems so advice on not taking them too close to bed time is important.

8.3 Non-pharmacological Interventions to be delivered by the ADHD Clinic

Whilst stimulants and atomoxetine are likely to benefit both the core symptoms of ADHD and other commonly associated symptoms such as mood lability, the complexities of adult life require a multimodal approach (Weiss 2008; Mongia 2012). Interventions most usefully offered include psychoeducation, cognitive behaviour therapy and teaching skills to assist with organising daily activities.

Both ADHD specific medication and non-pharmacological interventions require the person to make important treatment decisions. However, the commitment required for the non-pharmacological interventions is of a substantially greater magnitude. It requires on-going personal investment in terms of engagement and of time; both of which are challenges for a person with ADHD. This means all such interventions must be ADHD friendly by which is meant focused on channelling the positive attributes of ADHD thereby enhancing engagement.

Having reviewed the interventions available and their evidence base (Vidal - Estrada 2012), including their longer term efficacy (Lopez-Pinar 2018), this Clinical Programme recommends two for delivery. These are:

1. ADHD specific cognitive behaviour therapy for adults (Young, Bramham 2012)
2. Occupational therapy for ADHD in adults (Donoghue 2017: Appendix IV).

Each will now be briefly outlined.

ADHD specific Cognitive Behaviour Therapy

The Young-Bramham CBT Programme for ADHD can be delivered as an individual or group treatment. It addresses both the core and associated problems of ADHD in adults covering:

- Psycho-education about ADHD
- Attentional strategies
- Time management techniques
- Problem solving strategies
- Impulse control
- Addressing associated problems
- Positive psychology

The group format has the benefit of providing opportunities to both meet other people with similar problems and share strategies for coping. It is designed in a modular format, each to be delivered over six weeks. This allows the therapist to choose the modules appropriate to the needs of the group. The programme modules are:

Core Problems

- Attention
- Memory
- Organisation/ time management
- Impulsivity

Associated Problems

- Interpersonal relationships
- Anxiety
- Frustration and anger
- Low mood and depression
- Sleep
- Substance Misuse

Cognitive behaviour therapy specifically for ADHD provides:

- psychoeducation
- training in concrete skills e.g. organisation and planning
- together with outside practice to encompass maintenance of these skills in daily life (Young and Bramham 2013).

Its role is to provide a structured short-term therapy in which an individual:

1. Gains insight into ADHD and how its effects can be reduced by focusing on strategies to overcome areas impacted on. In this context it is also important to identify:

a) the individual's strengths, skills and talents
b) emphasise the promotion of lifestyle changes and targeted strategies.

2. Develops organisational and planning skills such as:

a) time management
b) diary keeping (including especially by mobile phone)
c) planning tasks as a series of smaller achievable steps to overcome distractibility, feelings of being overwhelmed and problems with task initiating.
d) building rewards into the system to sustain focus on task.

All of which should be done in the context of goal setting by the individual.

3. Completing homework as an integral component of developing the skills of self-regulation.

To ensure maximum access, this Clinical Programme recommends ADHD specific CBT be provided in group format. This has been shown to be effective clinically and economically (Solanto 2011).

This is in line with the NICE Quality Standards for ADHD (2013) which recommends that children and young people with moderate ADHD are offered a referral to a psychological group treatment programme. Whilst NICE has not set this quality standard for the treatment of adults with ADHD, its updated guidelines now recommend a structured supported intervention focused on ADHD which may offer elements of or a full course of CBT (2018). This together with the positive evidence on psychosocial approaches in adults with ADHD indicates it is appropriate to offer adults such treatment.

Occupational Therapy for ADHD in adults

Occupational therapy may improve functional outcomes and quality of life for adults with ADHD (Gutman and Szczepanski 2005). The treatment approach is person centred, individualised, recovery focused and targets functional outcomes.

Skills training, sensory modulation interventions, lifestyle redesign, cognitive assistive technology, psycho-education, compensatory strategies/ environmental adaptations, social skills training and activity scheduling are specific interventions that are utilized (Gutman and Szczepanski 2005). These interventions can be delivered in a group format or on a one to one basis. For instance monitoring and regulating sensory stimulation (over- and underload) through a sensory diet can improve attention, help develop skills to organize the physical environment, could improve performance in the workplace and social skills training could enhance social functioning (Gutman S, Szczepanski OTR, Szczepanski M. 2005).

The OT intervention briefly outlined below is recommended because it is task focused and delivered individually and so it would suit people who prefer these approaches (Donoghue 2017: Appendix IV). The intervention is based on the core occupational therapy principle of helping people to do the everyday things that they want to do and need to do. It targets sensory modulation (as a means of sustaining attention) and executive functioning.

(i) Sensory modulation: by identifying the sensory modulation patterns of the individual with ADHD the occupational therapist (OT) can devise sensory strategies to help focus attention.

(ii) Executive function is improved by working with the person "to organise to get organised".

In providing a bespoke suite of measures to improve attention and executive function, each individual acquires the skills to do his/her necessary everyday tasks.

The link for both the CBT and OT interventions is given in Appendix IV.

8.4 Other important interventions

These interventions are seen by the Clinical Programme as important contributors to the overall care plan of each adult with ADHD. They complement those provided by the ADHD Clinics and may be used simultaneously with the ADHD Clinic interventions or subsequently, depending on the person's needs and preference.

Voluntary ADHD Organisations in Ireland

There are a number of ADHD organisations in Ireland.

These are:

1. ADHD Ireland is the largest of the organisations and is expanding its activity outside Dublin.
2. ADHD Cork originally founded by HADD Ireland but now a separate body providing services for Cork.
3. Friends of Autism and ADHD which provides supports in the North County area of Dublin.

Of relevance to this NCP, ADHD Ireland provides or is in the process of developing the following services for people over 18 years of age:

- Adult support groups which run 3/52 weeks

- Recruiting volunteers so it can set up peer-to-peer adult support groups around the country. Groups now running in Sligo, Galway, Bray with a new group starting in Cork shortly.

- Plans are well advanced to develop an app outlining services and supports for adults with ADHD.
- Currently trialling an online support group in partnership with Turn2me.
- Conferences foradults.
- Advocacy viamedia
- Well established parenting courses and is planning training courses for adults with ADHD in the future
- Support line with 1 in 2 calls from adults needing information on where to get a diagnosis. Received approximately 1,000 calls in 2019.

It is recommended that each adult diagnosed with ADHD is informed of the adult support groups and webinars provided by ADHD Ireland and encouraged to link in.

ADHD specific coaching

ADHD specific coaching is based on the principal that every adult with ADHD has a different version of ADHD. Each person has a different set of symptoms and experiences each symptom to a different degree. Frequently there is at least one co-morbidity. Learning style, personality type and working style all add to the complexity of working with the person. Because each adult with ADHD is unique, one-to-one coaching can be an effective way of supporting people to meet their full potential and live their best life.

ADHD coaches need to have a combination of coaching skills and in-depth knowledge of ADHD. It is also desirable that they have some knowledge of typical co-morbidities. The coaching partnership is a collaboratively developed, purposeful relationship between a trained coach and a client founded on trust and mutual respect and created and sustained for the sole purpose of reaching the person's identified, meaningful goals. While the coach may offer information or coaching tools, coaching is not advice, therapy or counselling. The person is viewed as the expert in their life. When a person needs therapy, the coaching process is put on hold until he/she is ready to engage in the coaching process again.

ADHD coaching provides support, structure and accountability to the person (client). Coach and client collaboratively explore strengths, talents, tools and new learning to increase self-awareness and personal empowerment. Together they design strategies and actions and monitor and celebrate progress. They create accountability in line with the client's goals and aspirations. Coaching is an ongoing process and would typically continue for a minimum of 6 sessions or over a period of at least three months to allow for meaningful change to occur. Having said that, every client is different, some work at a slower pace than others especially where symptoms are severe or there are co-morbidities.

As part of an integrated and multidisciplinary approach, coaching can be recommended as a intervention option. It is useful for the coach to have access to the assessment report (with the person's written consent) so that the coach has knowledge of the areas identified during the assessment that the client needs to work on. If the client needs CBT or other therapy the client usually engages in that prior to coaching. If the client opts to take medication, it is preferable for the client to wait until they are settled on the right medication and the right dose before engaging in coaching. Where medication is not a suitable option for the client or where the client does not meet the full criteria for a diagnosis, coaching may be a useful option open to them.

General Wellbeing

NICE guidelines on ADHD state healthcare professionals should stress the value of a balanced diet, good nutrition and regular exercise ***(2008)***.

Diet: Whilst there is no evidence of benefit from either dietary restrictions or fatty acid supplementation, a well-balanced diet rich in protein and complex carbohydrates whilst minimising sugar intake is recommended (NICE 2016).

Exercise: There is now evidence to suggest that acute exercise (20 to 30 minutes) can enhance executive function. This is based on a meta-analysis of nineteen studies on the effects of physical exercise in pre-adolescents (6-12 years), adolescents (13-17 years) and young adults (18-35 years) (Verburgh 2014). This finding is relevant in adults with ADHD given their recognised difficulties with executive function (Young, Bramham 2012).

Hence a well-balanced diet together with regular exercise is recommended.

Employment

Difficulties in obtaining employment, functioning at work and sustaining ongoing employment are commonly associated with symptomatic ADHD in adults (Asherson 2005, Kooij 2010, Bramham 2016). In Ireland the Department of Employment Affairs and Social Protection funds specific services to provide employment support for people with a health condition, injury, illness or disability. This nationwide EmployAbility Service is delivered locally through a network of offices to ensure ease of access. The functions of each EmployAbility Service areto:

- provide employment assistance and access to a pool of potential employees with varying levels of skills, abilities and training
- provide ongoing support for both the employer and employee throughout the employment
- provide a professional role matching service to help ensure successful recruitment
- provide advice and information on additional employment supports.

The list of local services is available on www.welfare.ie.

Anecdotally, local services appear to vary from being very aware of and helpful to adults with ADHD to being somewhat lessaware.

As part of the implementation of this Clinical Programme a link will be established with the Department of Social Protection to ensure the provision of employment supports for adults with ADHD is required of each local EmployAbilityService.

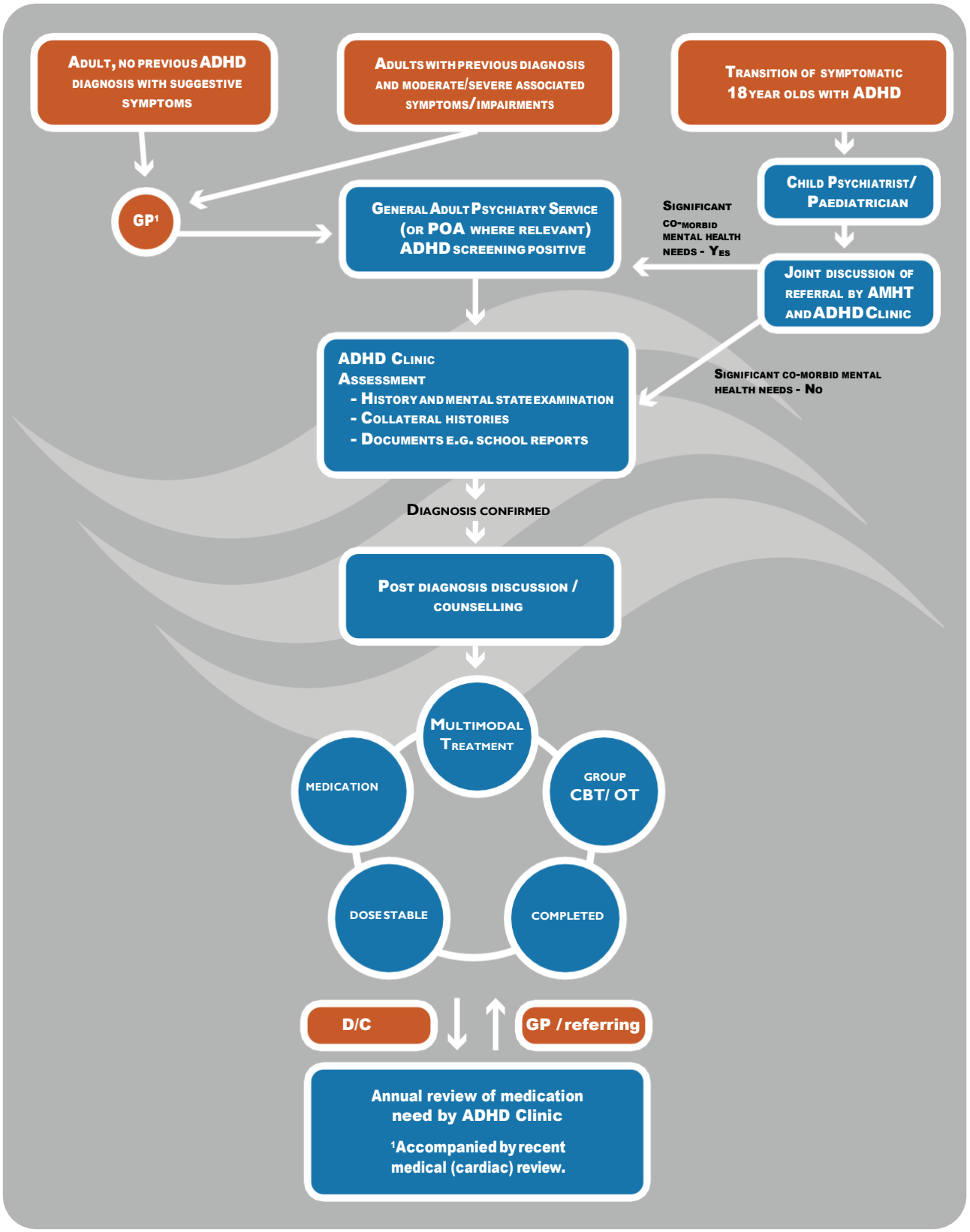
Monitoring Progress

The ***WEISS Functional Impairment Rating Scale*** – Self Report (WFIRS-S) is a useful scale in targeting areas for treatment and monitoring progress (Appendix III). The Clinical Programme recommends its use to measure outcomes oftreatment.

Clinical Pathway

The clinical pathway described in the previous chapter and in this chapter on the assessment process and treatment respectively is shown diagrammatically in figure 1.

Figure 1: The Clinical Pathway for Adults with ADHD



9. Service Organisation and Resource Requirements

In considering service organisation, AVFC (2006) principles of a national plan based on local service delivery in defined catchment areas was the first step in the process. A number of models were considered by the Working Group taking into account geographic factors, current general adult psychiatric (GAP) service organisation, the lack of skilled personnel and expected numbers of referrals. Presentations of a number of service models at the annual UKAAN Conferences 2017 and 2018 were also helpful in highlighting what works best and potential pitfalls.

The resource requirements are based on the adult population aged 18-64 years inclusive. While there may be some referrals from the Psychiatry of Old Age services, their number is expected to be relatively low given the natural history of ADHD. However, this will be monitored over time and resources reviewed if this proves not to be the case.

The service will be delivered by consultant led multidisciplinary teams based in ADHD clinics. 1.0 WTE consultant will serve a catchment area population of 250,000 - 400,000 working age adults. Whilst this may appear to be a large population, it is in line with the population recommended by AVFC (2006) for a single mental health service. It must also be borne in mind that:

(i) This is a tertiary level specialist service receiving its referrals from adult mental health teams. These remain ultimately responsible for each person. This includes any episodes of inpatient care.

(ii) Most referrals are likely to be of younger adults with relatively few people being referred in their 40s and 50s.

(iii) It is expected that over time all disciplines will be taught about ADHD in adults as part of undergraduate and postgraduate training. In addition this will be a core competency required by all psychiatrists. This means the tertiary service will in time confine its activities to adults with complex presentations, the adult mental health teams now having the skills to carry out competent ADHD assessments.

The ADHD Clinics will be deployed to be geographically accessible rather than on strict Community Health Organisation (CHO) lines. This is to ensure accessibility and to balance out populations to be served by each Clinic. The governance will rest with the CHO covering the largest population.

Each full team will consist of:

Consultant Psychiatrist	-	1.0 WTE
Administrator (Grade IV)	-	1.0 WTE
Clinical Nurse Specialist (Mental Health)	-	1.0 WTE
Occupational Therapist (Senior)	-	1.0 WTE
Psychologist (Senior)	-	1.0 WTE

The role of the various disciplines has been referred to in the chapters on assessment and treatment with one discipline taking the lead in each component and the other disciplines being involved as outlined below:

- Assessment: led by consultant psychiatrist with mental health nursing and psychology involved. The Psychologist will also undertake neurocognitive testing as required.
- Treatment:
  - Medication: psychiatry to lead and mental health nursing involved in ADHD specific medication clinics. With further training the mental health nurse may also undertake the role of nurse prescriber.
  - Psycho-education: all involved with this intervention starting at post-assessment discussion and continuing through each phase of treatment.
  - ADHD specific cognitive behavioural therapy: psychology to lead with occupational therapy and mental health nursing involved in the groups in particular.
  - Occupational therapy intervention: O.T. to lead with involvement of mental health nursing and psychology as required e.g. for groups.

SERVICE ORGANISATION AND RESOURCE REQUIREMENTS

Given that the Specialist ADHD Team will be treating people for relatively short periods of time with focused interventions on ADHD, the wider social work needs can be dealt with at AMHT level if ongoing care is required for other mental health problems, including co-morbid mental disorders, ensuring continuity of care with that team.

If other disciplines are required, such as Speech & Language Therapy (SLT) for receptive language disorders that can seem like ADHD, the person should be referred to the local Primary Care SLT Service.

Location of ADHD Clinics

In considering the location of the proposed ADHD clinics, the following factors were taken into account:

- Working age population (18-64yrs)
- Transport links
- Presence of a prison

Therefore, the locations are not based solely on CHO catchment areas. Furthermore a specific ADHD clinic for the Dublin based prisons is recommended given the concentration of prisons in the capital city.

In other parts of the country the ADHD clinic personnel will work with the prison forensic psychiatry service to advise and assist in diagnosis and in the provision of the two ADHD specific interventions.

Table 1 shows the proposed location of each ADHD clinic and whether a full or half time consultant with pro-rata team is deployed.

Table 2: Distribution of proposed ADHD clinics

CHO	County	Population 18-64 years	Total Population	Prison	ADHD Clinic Allocation
1	Donegal Sligo Leitrim	86,828 38,950 24,501	150,279	-	0.5 Team
1	Cavan Monaghan Louth Meath	43,968 36,245 86,614 108,269	275,096	-	1 Team
2	Mayo Galway/Roscommon	75,630 197,041	272,671	P	1 Team
3	Limerick Clare North Tipperary	120,391 70,537 41,869	232,797	P	1 Team
4	Kerry Cork	88,146 335,010	423,156	P	1.5 Teams
5	South Tipperary Carlow Kilkenny Waterford Wexford	52,522 43,289 51,147 68,980 88,571	304,509	-	1 Team
6	Dublin South East	286,670	286,670	-	1 Team
7	Dublin West Dublin South City Dublin South West	266,497	266,497	P x 2[1]	1 Team
7+8	Kildare West Wicklow Westmeath Offaly Longford Laois	143,344 53,816 46,245 23,831 50,825	318,061	P	1 Team
9	Dublin North Dublin North Central Dublin North West	404,063	404,063	P x 3[1]	1 Team
	Total	3,007,142			

1 Served by proposed separate forensic ADHD Clinic

Dublin Prisons ADHD Service

Given the concentration of prisons in the Dublin area it is recommended a full team is allocated to work closely with the existing forensic psychiatry prison teams in the identification and provision of specific ADHD interventions for prisoners meeting diagnostic criteria. These prisons are:

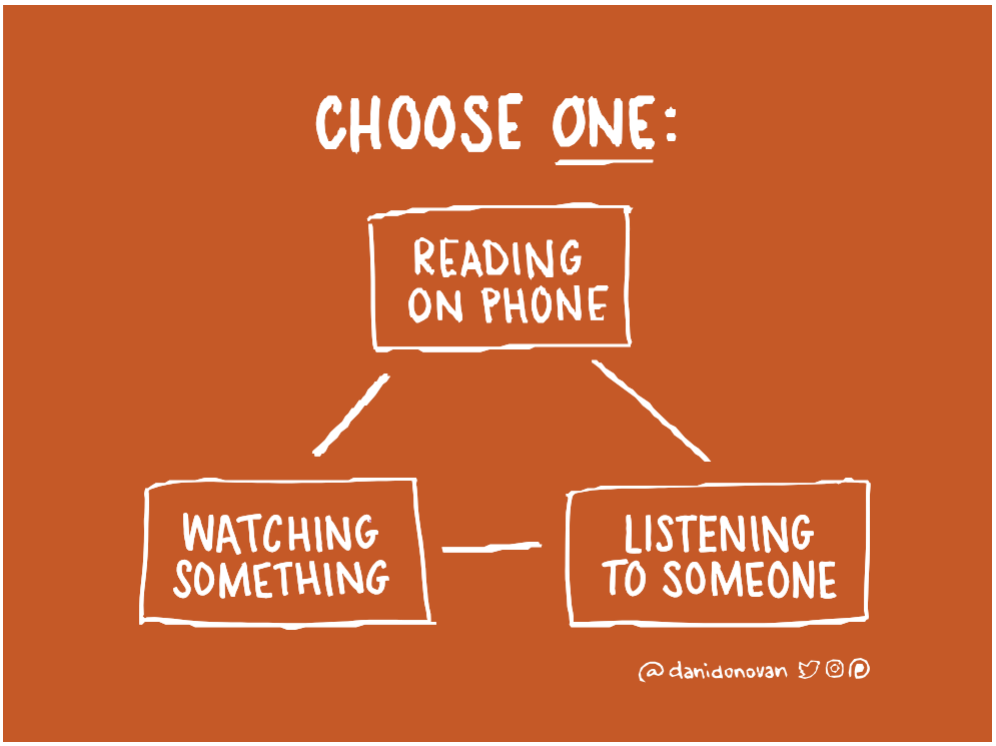
- Cloverhill (remand)
- Mountjoy
  - Men
  - Women
- Wheatfield
- (Arbour Hill)

SERVICE ORGANISATION AND RESOURCE REQUIREMENTS

Student Mental Health

The larger third level colleges include a psychiatrist as part of their health service provision for students. Given the age group the psychiatrists are providing for, the ability to screen and treat ADHD is necessary. Equally, each institution must ensure it funds sufficient sessions of psychiatry time in order to ensure that this service is available for both students known to have symptomatic ADHD and those requiring assessment. Where psychiatrists working in these centres require training, this will be provided through the National Clinical Programme.

Where there is no psychiatrist available in the smaller institutions, protocols will be developed for local ADHD Clinics to ensure a student has access to an ADHD service if clinically indicated. Equally, a protocol for the larger academic institutions will be required where diagnosis is complex.



Development of the Model over time

Phase I

In this first phase of the ADHD clinic model, there will be a focus on diagnosis to respond to:

(i) The current lack of training in the diagnosis and management of ADHD in both general professional training in psychiatry as a whole and higher professional training in two of the four psychiatric specialities, i.e. General Adult Psychiatry and Psychiatry of Old Age.

(ii) The expectation that approximately 15% of working age adults attending General Adult Psychiatry services may have ADHD which is currently unrecognised. This group will need a specific focus to ensure they are both identified and offered ADHD specific interventions which will be provided through the ADHD clinic.

Phase II

During this second phase, preparation for which will run concurrently with Phase I, education and training will be a particular focus.

(i) All General Adult Psychiatrists working in the public services in Ireland will be offered training in the assessment and management of ADHD in Adults. This training will also be made available to Consultants in Psychiatry of Old Age.

(ii) Higher training in General Adult Psychiatry and Psychiatry of Old Age will in future include the assessment and management of ADHD in adults as a core competency.

It is expected that within 3 years all General Adult Psychiatrists and Old Age Psychiatrists will be able to diagnose ADHD and initiate pharmacological treatment. The ADHD Clinic will then:

(i) Concentrate on providing second opinions on complex cases i.e. where a full assessment for ADHD has been carried out by the relevant adult service but the person's presentation is not straightforward and a specialist ADHD consultant opinion is required.

(ii) Continue to provide the two ADHD specific interventions.

In this way the diagnosis and management of ADHD in adults will become a skill set required of all Psychiatrists as it already is for Psychiatrists who have specialised in Psychiatry of Learning Disability (both adult and child) and Child and Adolescent Psychiatry.

It is known a significant number (15%) of current attenders are likely to have unrecognised ADHD. Recognition and treatment should mean people recover and, importantly, function better so can be discharged. The current evidence is that many continue to attend services for many years (Rao 2011, Deberdt 2015). Whilst there will undoubtedly be new people referred, the existing attendees with ADHD should be largely responded to in Phase I of the Model of Care and a steady intake of new referrals have been reached by Phase II. Clinical activity data will be collected as an integral part of this Clinical Programme thereby enabling service need to be monitored and responded to as required.

10. Governance and Implementation

10.1 Governance

The National Clinical Programme for Adults with ADHD will operate within the established governance structures for mental health services.

Where the Specialist ADHD Clinic covers a second CHO, the Clinic will be under the governance structure of the larger CHO, reporting through the Head of Mental Health and the ECD to the Chief Officer. In the case of the Dublin Prison ADHD Service, the governance structure will be that of the National Forensic Service.

The ADHD Clinic will be a tertiary service within each local mental health service. It will accept referrals from General Adult Psychiatry Teams as outlined in the chapter on Assessment Process. It will also accept referrals from Psychiatry of Old Age Teams if the person meets the referral criteria and is cognitively intact.

All people will remain primarily under the care of the relevant age related team. The ADHD Clinic's role is to carry out an ADHD specific assessment on those referred, having screened positive for ADHD. If the diagnosis is confirmed, the ADHD specific interventions will be delivered by the ADHD Clinic. If ADHD is not confirmed and following a detailed discussion of this with the person, he/she will continue with their age related team for any further or ongoing treatment required.

People stabilised on ADHD specific medication and attending their GPs for prescriptions and medical monitoring will be recalled for review of ADHD diagnosis annually. Both the GP and General Adult Psychiatry or Psychiatry of Old Age Team involved will be informed in writing of the outcome and advised on the continuation of ADHD specific medication.

10.2 Implementation

The Clinical Lead and the Programme Manager will establish a National Oversight & Implementation Group to implement the National Clinical Programme and to support the staff working in the ADHD Clinics. The brief of this group will include the following:

- Training and teaching
- Protocol development
- ADHD Clinic activity data consideration
- Recruiting
- Research.

Separately the Clinical Lead and Programme Manager will play a key role in ensuring:

- Funding is sought to ensure national coverage by ADHD Clinics as shown in Table 1
- Working with CHOs to assist in recruitment
- Organising training in assessment and in all the HSE provided interventions recommended by the NCP.

10.3 Demonstration Sites

Programme for Government Funding of €1m was allocated in 2017 to implement some demonstration sites. Three sites have been identified and work commenced on recruiting staff for these sites.

These sites will play a crucial role in evaluating the proposed Model of Care. The evaluation should assist in

addressing concerns such as potential impact on referrals to AMHTs and demand generated by third level students. This will enable adjustments, if necessary, to be made in the demonstration sites and any subsequent sites, if such are funded by Government.

11. Education/Training/Continuing Professional Development

Education and training will be an important component of implementing this Clinical Programme. Apart from the small service in Sligo/Leitrim, there are no public services for adults with ADHD in Ireland. Consequently very few mental health professionals in any discipline are trained in the assessment and management of ADHD in adults. Hence training programmes in assessment and management will be provided by the NCP as part of its implementation strategy.

Training for assessment of ADHD

This NCP recommends the use of the Diagnostic Interview for Adult ADHD, DIVA-5 (Kooji 2019) which can be downloaded from www.divacenter.eu. Training in the DIVA is provided by the UK Adult ADHD Network (UKAAN) which runs courses twice a year in London. UKAAN now also offers on-site and virtual training.

All psychiatrists, psychologists and mental health nurses working in the ADHD Clinics must undertake this training. All General Adult Psychiatrists should undertake this training and at least one Old Age Psychiatrist in each POA service.

Treatment with ADHD Specific Medication

UKAAN also offers training in treatment with ADHD specific medication. Both this and the training in assessment are each one day courses, usually run consecutively. Again it may be conducted in London, arranged on-site in Ireland or delivered virtually.

All psychiatrists and mental health nurses working in an ADHD clinic will be expected to complete this training. Psychiatrists will initiate medication and it is proposed that mental health nurses will have a role in the stabalisation of dose and ultimately in prescribing. All General Adult Psychiatrists should undertake this training and at least one Old Age Psychiatrist in each POA service.

Non-pharmacological Interventions

ADHD specific cognitive behavioural therapy

The Young-Bramham method will be used. This will require training. There are two options. The first is for those who will be involved in delivering the intervention to attend the two day training course, again run by UKAAN in London and now available virtually.

Alternatively, it may be possible to develop a training course here in Ireland.

The disciplines expected to undertake this training are all psychologists, mental health nurses and occupational therapists working in the ADHD Clinics.

ADHD specific occupational therapy intervention

The role of each occupational therapist in the ADHD Clinics will include delivering this intervention. A training course will be developed as part of the implementation of this Clinical Programme.

Post graduate training in Psychiatry

The Irish College of Psychiatrists will be asked to ensure that the assessment and management of ADHD in adults is incorporated as a required core competency in higher training in General Adult Psychiatry and Psychiatry of Old Age. The consultants in the planned ADHD Clinics would be in a position to provide special interest sessions in ADHD in adults for higher trainees in the two adult specialities.

ADHD specific coaching

ADHD Coaching is well established as a treatment option for ADHD in the US and Canada and is gradually being introduced in Europe. The leading professional body for the coaching profession is the International Coach Federation (ICF). Coaches who are members of the ICF must have received their certification from a coach training programme accredited by the ICF. In addition, each should have completed a course on ADHD specific coaching.

Protocols and Guidelines

To assist in the smooth operation of the Model of Care, a number of protocols or guidelines will be required.

These will include:

- Referral
- Transition from CAMHS
- Medication
    - Initiation
    - Stabilisation
    - Monitoring
    - Annual Review
- Access for third level students
- Monitoring of outcomes
- Discharge
    - to AMHT
    - to GP

  Each of these discharge protocols to include directions on monitoring, re-referral and annual recall of patients to the ADHD clinic, if on ADHD specific medication.

- Re-referrals.

It will be the role of the National Oversight & Implementation Group to draw up relevant protocols, guidelines, referral and other forms. This will be done in association with primary care, with input from GPs in particular.

Communication

There are two levels of communication required: to the general public as a whole, and to individuals considering referral for assessment.

- General Information

  There will be a need for clear communication on what the ADHD Service is and is not. In particular, the rationale for only treating people above a certain threshold of impairment must be explicitly communicated. Information on options for those below this threshold should be available. This information will be made available on the ADHD in Adults NCP webpage.

- Individual Information

  The above information should also assist individuals and their GPs in making a decision as to whether referral for possible assessment would be appropriate. The use of the two screening instruments to assist in deciding whether to proceed to full assessment should be explained. The benefits and limitations of treatment if diagnosed with ADHD should also be outlined in advance to avoid unrealistic expectations. This information will also be made available on the ADHD in Adults NCP webpage.

12. Programme Metrics and Evaluation (including patient experience)

1.1 Programme Metrics

Modern health services are expected to demonstrate that they are providing safe and effective services for people and that people have a positive experience of such care (Healthy London Partnership 2017).

In line with this, the ADHD in Adults Clinical Programmes Model of Care will be evaluated on an ongoing basis to ensure it meets these requirements. A small subcommittee of the Working Group drew up a clinical activity data set for this purpose. This data set was piloted in the sole public service provider for adults with ADHD (Sligo-Leitrim). Following feedback from this the data set was modified accordingly. An integral part of the function of each ADHD clinic is that it will return this data on a monthly basis to the HSE's Mental Health Clinical Programmes Office. The clinic will also collect monthly data on the total number screened by each General Adult Psychiatry and Psychiatry of Old Age team in its catchment area.

1.2 Patient Experience

The Clinical Programme will collect data on the interventions provided by the ADHD Clinics. This will give both quantitative and qualitative measures of outcome and experience. It will allow comparisons of interventions offered by the ADHD clinics and should add substantially to the knowledge of what works for adults with ADHD. It will also enable the Clinical Programme to refine and develop its interventions over time.

1.3 Research

Research will be incorporated into the implementation of this National Clinical Programme. The activity and outcome data is the obvious focus of any research. The implementation process itself will also be examined to assist in the roll-out of later ADHD Clinic sites. A link has been established with an academic institution to further thisaim.

Appendix I: Pre-assessment Screening Scales

1. Wender Utah Rating Scale (WURS)

Year: 1993

Developers:
Ward, M. F.; Wender, P.H.; Reimherr, F. R.

Description:
The Wender Utah Rating Scale can be used to assess adults for Attention Deficit Hyperactivity Disorder. The original version of the scale included 61 items (a 25-item version has also been studied (McCann et al, 2000) answered by the adult patient recalling his or her childhood behaviour, each with five possible responses scored on a Likert-type scale rangeing from 0 (not at all or very slightly) to 4 (very much). Items include symptoms of ADHD such as "afraid of things", "irritable", "sloppy", "disorganised", "headaches", "bad handwriting," and "trouble with mathematics or numbers." Items fall into three factors: dysthymia, oppositional/defiant behaviour, and school (work)problems.

Instrument Details:

Source Reference:	Ward MF, Wender PH, Reimher FR. The Wender Utah Scale: an aid in the retrospective diagnosis of childhood attention deficit hyperactivity disorder. Am J Psychiatry 1993; 150:885-890.
Population studied:	Adults
Instrument Type:	Assessment
Administration/ Scoring:	The scale has demonstrated adeqate internal consistency, good temporal stability with one-month test-retest reliability, and good discriminant validity.
Validity/Reliability:	Though it is widely used, the WURS has been criticized for using outdated criteria from a previous version of the DSM (Conners et al, 1999) and lacking proper validation (Rossini & O'Conner, 1995). Nevertheless, it has been reported to demonstrate clinical utility, correctly identifying 86% of adults with ADHD in the original validation study (Ward et al, 1993) and 72% of patients in another study (McCann et al,2000).

Supporting References:

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Wender Utah Rating Scale for Attention Deficit Hyperactivity Disorder

Overview:

The Wender Utah Rating Scale can be used to assess adults for Attention Deficit Hyperactivity Disorder with a subset of 25 questions associated with that diagnosis.

Wender Utah Rating Scale

- 61 questions answered by the adult patient recalling his or her childhood behaviour
- 5 possible responses scored from 0 to 4 points

As a child I was (or had):		not at all or very slightly	mildly	moderately	quite a bit	very much
1	active restless always on the go					
2	afraid of things					
3	concentration problems easily distracted					
4	anxious worrying					
5	nervous fidgety					
6	inattentive daydreaming					
7	hot-or short-tempered low boiling point					
8	shy sensitive					
9	temper outbursts tantrums					
10	trouble with stick-to-it-tiveness not following through. failing to finish things started					
11	stubborn strong-willed					
12	sad or blue depressed unhappy					
13	incautious. dare-devilish involved in pranks					
14	not getting a kick out of things dissatisfied with life					
15	disobedient with parents rebellious sassy					
16	low opinion of myself					
17	irritable					
18	outgoing friendly enjoyed company of people					
19	sloppy disorganised					
20	moody ups and downs					
21	angry					
22	friends popular					
23	well-organised tidy neat					
24	acting without thinking impulsive					
25	tendency to be immature					
26	guilty feelings regretful					
27	losing control of myself					
28	tendency to be or act irrational					
29	unpopular with other children didn't keep friends for long didn't get along with other children					
30	poorly coordinated did not participate in sports					
31	afraid of losing control of self					

32	well-coordinated picked first in games					

As a child I was (or had):		not at all or very slightly	mildly	moderately	quite a bit	very much
33	tomboyish (for women only)					
34	running away from home					
35	getting into fights					
36	teasing other children					
37	leader bossy					
38	difficulty getting awake					
39	follower led around too much					
40	trouble seeing things from someone else's point of view					
41	trouble with authorities trouble with school visits to principal's office					
42	trouble with police booked convicted					
43	headaches					
44	stomachaches					
45	constipation					
46	diarrhea					
47	food allergies					
48	other allergies					
49	bedwetting					
As a child in school I was (or had)		not at all or very slightly	mildly	moderately	quite a bit	very much
50	overall a good student fast					
51	overall a poor student slow learner					
52	slow in learning to read					
53	slow reader					
54	trouble reversing letters					
55	problems with spelling					
56	trouble with mathamatics or numbers					
57	bad handwriting					
58	able to read pretty well but never really enjoyed reading					
59	not achieving up to potential					
60	repeating grades					
61	suspended or expelled					

Questions Associated with ADHD

- 25 of the questions were associated with ADHD as follows:

	As a child I was (or had):
3	concentration problems easily distracted
4	anxious worrying
5	nervous fidgety
6	inattentive daydreaming
7	hot- or short-tempered low boiling point
9	temper outbursts tantrums
10	trouble with stick-to-it-tiveness not following through. failing to finish things started
11	stubborn strong-willed
12	sad or blue depressed unhappy
15	disobedient with parents rebellious sassy
16	low opinion of myself
17	irritable
20	moody ups and downs
21	angry
24	acting without thinking impulsive
25	tendency to be immature
26	guilty feelings regretful
27	losing control of myself
28	tendency to be or act irrational
29	unpopular with other children didn't keep friends for long didn't get along with other children
40	trouble seeing things from someone else's point of view
41	trouble with authorities with school visits to principal's office
51	overall a poor student slow learner
56	trouble with mathamatics or numbers
59	not achieving up to potential

Wender Utah rating scale subscore =_____(sum of 25 questions associated with ADHD).

Interpretation:

- minimum score for the 25 questions is 0
- maximum score 100
- if a cutoff score of 46 was used 86% of patients with ADHD, 99% of normal persons and 81% of depressed subjects were correctly classifed

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2. Adult ADHD Self-Report Scale

CADDRA
CANADIAN ADHD RESOURCE ALLIANCE

ADULT ADHD SELF-REPORT SCALE (ASRS-V1.1) SYMPTOM CHECKLIST INSTRUCTIONS

Description:

The Symptom Checklist is an instrument consisting of the 18 DSM-IV-TR criteria. Six of the 18 questions were found to be the most predictive of symptoms consistent with ADHD. These six questions are the basis for the ASRS-V1.1 screener and are also Part A of the Symptom Checklist. Part B of the Symptom Checklist contains the remaining 12 questions.

Instructions:

Symptoms

1. Ask the patient to complete both Part A and Part B of the Symptom Checklist by marking an X in the box that most closely represents the frequency of occurrence of each of the symptoms.
2. Score Part A. If four or more marks appear under Often/Very Often then the patient has symptoms highly consistent with ADHD in adults and further investigation is warranted.
3. The frequency scores on Part B provide additional cues and can serve as further probes into the patient's symptoms. Pay particular attention to marks appearing under Often/Very Often. The frequency-based response is more sensitive with certain questions. No total score or diagnostic likelihood is utilized for the 12 questions. It has been found that the six questions in Part A are the most predictive of the disorder and are best for use as a screening instrument.

Impairments

1. Review the entire Symptom Checklist with your patients and evaluate the level of impairment associated with the symptom.
2. Consider work/school, social and family settings.
3. Symptom frequency is often associated with symptom severity, therefore the Symptom Checklist may also aid in the assessment of impairments. If your patients have frequent symptoms, you may want to ask them to describe how these problems have affected the ability to work, take care of things at home, or get along with other people such as their spouse/significant other.

History

1. Assess the presence of these symptoms or similar symptoms in childhood. Adults who have ADHD need not have been formally diagnosed in childhood. In evaluating a patient's history, look for evidence of early-appearing and long-standing problems with attention or self-control. Some significant symptoms should have been present in childhood, but full symptomology is not necessary.

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APPENDIX I: PRE-ASSESSMENT SCREENING SCALES

CADDRA
CANADIAN ADHD RESOURCE ALLIANCE

Patient Name:
Date of Birth: MRN/File No:
Physician Name: Date:

ADULT ADHD SELF-REPORT SCALE (ASRS-V1.1) SYMPTOM CHECKLIST

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 6 months. Please give this completed checklist to your healthcare professional to discuss during your appointment	Never	Rarely	Sometimes	Often	Very often
PART A					
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 organization?					
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, like you were driven by a motor?					
PART B					
7. How often do you make careless mistakes when you have to work on a boring or difficult project?					
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 at 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're 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 when turn taking is required?					
18. How often do you interrupt others when they are busy?					

WEISS FUNCTIONAL IMPAIRMENT RATING SCALE (WFIRS) INSTRUCTIONS

Purpose

- ADHD symptoms and actual impairment overlap but are distinct concepts. It is important to measure both since some patients are highly symptomatic but not impaired or vice versa
- This scale contains those items that are most likely to represent the patient's target of treatment. Therefore, the use of the scale before and after treatment can allow the clinician to determine not only if the ADHD has improved, but if the patient's functional difficulties are also better.
- This instrument has been translated into 18 languages. It has been used in many studies and is psychometrically validated. This is the only measure of functional impairment that looks at specific domains and has been validated in the ADHD population.

Design and Validation Information

Scoring The instrument uses a Likert scale such that any item rating 2 or 3 is clinically impaired. The scale can be scored by looking at the total score or by creating a mean score for the total score/number items for each domain, omitting those rated not applicable. For clinical purposes, when defining impairment for DSM-IV, clinicians can consider that any domain with at least two items scored 2, one item scored 3 or a mean score >1.5 is impaired.

Validation The scale has been psychometrically validated with an internal consistency >.8 for each domain and for the scale as a whole. It has moderate convergent validity (0.6) with other measures of functioning (i.e. Columbia Impairment Scale and the Global Assessment of Functioning (GAF). It has moderate discriminating validity (0.4) from symptoms pre-treatment (i.e. ADHD-Rating Scale) and quality of life (CHIP). The domains have been confirmed by factor analysis, although the domain of school functioning separates into learning and behaviour. The scale is highly sensitive to change with treatment and, in particular, significantly correlated to change in ADHD symptoms (40% change) and overall psychopathology. Each anchor point on the Likert scale represents approximately one standard deviation(SD). A total score change of 13 would be considered a significant improvement or about half a SD. The change obtained in treatment is typically one full SD. The mean score for risky behaviour in children is 0.5 but increases with age. For adolescents the mean score is 1.

Copyright Information

Appendix II: Rating Functional Impairments

CADDRA
CANADIAN ADHD RESOURCE ALLIANCE

Patient Name:
Date of Birth: MRN/File No:
Physician Name: Date:

WEISS FUNCTIONAL IMPAIRMENT RATING SCALE – SELF REPORT (WFIRS-S)

Work: ☐ Full time ☐ Part time ☐ Other_____ School: ☐ Full time ☐ Part time

Circle the number for the rating that best describes how your emotional or behavioural problems have affected each item in the last month.

		Never or not at all	Sometimes or somewhat	Often or much	Very often or very much	n/a
A	**FAMILY**					
1	Having problems with family	0	1	2	3	n/a
2	Having problems with spouse/partner	0	1	2	3	n/a
3	Relying on others to do things for you	0	1	2	3	n/a
4	Causing fighting in the family	0	1	2	3	n/a
5	Makes it hard for the family to have fun together	0	1	2	3	n/a
6	Problems taking care of your family	0	1	2	3	n/a
7	Problems balancing your needs against those of your family	0	1	2	3	n/
8	Problems losing control with family	0	1	2	3	n/a
B	**WORK**					
1	Problems performing required duties	0	1	2	3	n/a
2	Problems with getting your work done efficiently	0	1	2	3	n/a
3	Problems with your supervisor	0	1	2	3	n/a
4	Problems keeping a job	0	1	2	3	n/a
5	Getting fired from work	0	1	2	3	n/a
6	Problems working in a team	0	1	2	3	n/a
7	Problems with your attendance	0	1	2	3	n/a
8	Problems with being late	0	1	2	3	n/a
9	Problems taking on new tasks	0	1	2	3	n/a
10	Problems working to your potential	0	1	2	3	n/a
11	Poor performance evaluations	0	1	2	3	n/a
C	**SCHOOL**					
1	Problems taking notes	0	1	2	3	n/a
2	Problems completing assignments	0	1	2	3	n/a
3	Problems getting your work done efficiently	0	1	2	3	n/a
4	Problems with teachers	0	1	2	3	n/a
5	Problems with school administrators	0	1	2	3	n/a
6	Problems meeting minimum requirements to stay in school	0	1	2	3	n/a
7	Problems with attendance	0	1	2	3	n/a
8	Problems with being late	0	1	2	3	n/a
9	Problems with working to your potential	0	1	2	3	n/a
10	Problems with inconsistent grades	0	1	2	3	n/a
D	**LIFE SKILLS**					
1	Excessive or inappropriate use of internet, video games or TV	0	1	2	3	n/a
2	Problems keeping an acceptable appearance	0	1	2	3	n/a
3	Problems getting ready to leave the house	0	1	2	3	n/a
4	Problems getting to bed	0	1	2	3	n/a
5	Problems with nutrition	0	1	2	3	n/a

		Never or not at all	Sometimes or somewhat	Often or much	Very often or very much	n/a
6	Problems with sex	0	1	2	3	n/a
7	Problems with sleeping	0	1	2	3	n/a
8	Getting hurt or injured	0	1	2	3	n/a
9	Avoiding exercise	0	1	2	3	n/a
10	Problems keeping regular appointments with doctor/dentist	0	1	2	3	n/a
11	Problems keeping up with household chores	0	1	2	3	n/a
12	Problems managing money	0	1	2	3	n/a
E	**SELF-CONCEPT**					
1	Feeling bad about yourself	0	1	2	3	n/a
2	Feeling frustrated with yourself	0	1	2	3	n/a
3	Feeling discouraged	0	1	2	3	n/a
4	Not feeling happy with your life	0	1	2	3	n/a
5	Feeling incompetent	0	1	2	3	n/a
F	**SOCIAL**					
1	Getting into arguments	0	1	2	3	n/a
2	Trouble cooperating	0	1	2	3	n/a
3	Trouble getting along with people	0	1	2	3	n/a
4	Problems having fun with other people	0	1	2	3	n/a
5	Problems participating in hobbies	0	1	2	3	n/a
6	Problems making friends	0	1	2	3	n/a
7	Problems keeping friends	0	1	2	3	n/a
8	Saying inappropriate things	0	1	2	3	n/a
9	Complaints from neighbours	0	1	2	3	n/a
G	**RISK**					
1	Aggressive driving	0	1	2	3	n/a
2	Doing other things while driving	0	1	2	3	n/a
3	Road rage	0	1	2	3	n/a
4	Breaking or damaging things	0	1	2	3	n/a
5	Doing things that are illegal	0	1	2	3	n/a
6	Being involved with the police	0	1	2	3	n/a
7	Smoking cigarettes	0	1	2	3	n/a
8	Smoking marijuana	0	1	2	3	n/a
9	Drinking alcohol	0	1	2	3	n/a
10	Taking "street" drugs	0	1	2	3	n/a
11	Sex without protection (birth control, condom)	0	1	2	3	n/a
12	Sexually inappropriate behaviour	0	1	2	3	n/a
13	Being physically aggressive	0	1	2	3	n/a
14	Being verbally aggressive	0	1	2	3	n/a

SCORING:

1. Number of items scored 2 or 3
   or
2. Total score
   or
3. Mean score

DO NOT WRITE IN THIS AREA

A. Family _____
B. Work _____
C. School _____
D. Life skills _____
E. Self-concept _____
F. Social _____
G. Risk _____
Total _____

Appendix III: Co-morbidities and their differentiation from ADHD symptoms

4.1

Anxiety

ADHD	Anxiety
Ceaseless mental activity	Anxious worrying Obsessive thought process (in OCD)
Avoids frustrating situations - Shopping - Social situations - Queuing - Travelling	Phobic avoidance
Easily feels overwhelmed	Easily becomes anxious
No panic attacks	**Discrete panic attacks (Panic disorder)**
Improved by stimulants	**Usually exacerbated by stimulants**

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4.2

Mood symptoms

Mood instability	- Commonly seen in ADHD - Often responds to stimulants
Chronic low self-esteem	- Commonly seen in ADHD - Usually responds to control of symptoms and improvement in level of function over time - Psychological interventions helpful
Depressive episode	- Not routinely in ADHD - Suggests c-morbid mood disorder - **A clear change from usual mental state** - Requires separate treatment (stimulants usually insufficient)

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4.3

(Emotionally unstable) personality disorder

ADHD	(Emotionally unstable) personality disorder
Child or adolescent onset	Childhood or adolescent onset
Defined by impairment	Defined by impairment
Chronic trait like course	Chronic trait like course
Pervasive across situations	Pervasive across situations
Behavioural symptoms out of keeping for developmental stage	Behavioural symptoms out of keeping for developmental stage
Affective lability (can be severe)	Affective lability
Impulsive	Impulsive
Hyperactivity	n/a
Inattention	n/a
n/a	Frantic efforts to avoid real/imagined abandonment
n/a	Identity disturbance
Self-harm can occur (due to impulsivity and frustration)	Recurrent suicidal behaviour
n/a	Chronic feelings of emptiness
n/a	Transient, stress-related paranoid thoughts

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4.4

Autism Spectrum Disorder (ASD)

ADHD	ASD
Childhood onset, pervasive across situations	Childhood onset, pervasive across situations
Significant difficulties with time management	Often obsessed about self and others being on time
Often perceived as 'on the go' & excitable	Often perceived as passive and aloof
Sleeping difficulties common	Sleeping difficulties common
May appear uninterested (due to da-dreaming/ mind wandering)	May appear uninterested (due to lack of social awareness/understanding, focus on own thoughts)
Social interaction difficulties common, but communications skills mostly intact	Significant social deficits accompanied by verbal and non-verbal communication skill deficits
Easily overwhelmed by information/detail	Preference to (over) focus on detail
Inattention due to distractibility/poor focus	Inattention due to preoccupation/sensory overwhelm
Impulsivity often accompanied by lack of considering consequences of actions	Appears impulsive due to lack of awareness of social & emotional impact of actions/words said
Easily distracted by sensory stimuli	Unable to filter most sensory stimuli
Seeks novelty/stimulation. Avoids boredom	Seeks structure/predictability/routine/repetition
Wide range of interests, often short-lived	Narrow range of interests, often lifelong
Tends to avoid silence	Tends to prefer silence
Symptoms responsive to medication	Treatment/support mainly psychosocial

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Appendix IV: Information on non-pharamacological Interventions

(i) CBT for adults with ADHD https://www.hse.ie/eng/about/who/cspd/ncps/mental-health/adhd/

(ii) Occupational therapy for adults with ADHD https://www.hse.ie/eng/about/who/cspd/ncps/mental-health/adhd/

Glossary of Acronyms

A	ADHD	Attention Deficit Hyperactivity Disorder
	ASD	Autism Spectrum Disorder
	AMHT	Adult Mental Health Team
	AVFC	A Vision for Change
C	CBT	Cognitive Behavioural Therapy
	CEO	Chief Executive Officer
	CHO	Community Healthcare Organisation
	CAMHS	Child and Adolescent Mental Health Services
	CL	Clinical Lead
	CMHN	Community Mental Health Nurse
	CMHTS	Community Mental Health Teams
	CO	Chief Officer
	CP	Clinical Programme
D	DIVA	Diagnostic Interview for Adult ADHD
	DOH	Department of Health
E	ED	An emergency department (ED), also known as accident & emergency (A&E), emergency room (ER), or casualty department
	EHR	Electronic Health Record
G	GAD	General Anxiety Disorder
	GAP	General Adult Psychiatry
	GAMHT	General Adult Mental Health Team
	GAMHS	General Adult Mental Health Services
	GAPCMHT	General Adult Psychiatry Community Mental Health Team
	GP	General Practitioner
H	HCPs	Health Care Professionals
	HG	Hospital Groups
	HIPE	Hospital In-Patient Enquiry
	HIQA	Health Information and Quality Authority
	HSE	Health Service Executive
	HR	Human Resources
I	ICD	International Classification of Diseases
	ICF	International Coaching Federation
	ICT	Information and Communications Technology
	ICP	Individual Care Plan
	ID	Intellectual Disability
K	KPI	Key Performance Indicator
M	MDR	Management Data Report
	MH	Mental Health
	MHC	Mental Health Commission
	MHT	Mental Health Team
	MOC	Model of Care
N	NCAGL	National Clinical Advisor Group Lead
	NICE	National Institute for Health and Care Excellence
	NCHD	Non Consultant Hospital Doctor
	NSP	National Service Plan
O	OCD	Obsessive Compulsive Disorder
	OPD	Out Patients Department
	OT	Occupational Therapist
P	PC	Primary Care
	PM	Programme Manager
	POA	Psychiatry of Old Age
	PSI	Psychological Society of Ireland
Q	QPS	Quality and Patient Safety
R	RCSI HG	Royal College of Surgeons in Ireland Hospital Group
	RCPI	Royal College of Physicians of Ireland
	RPN	Registered Psychiatric Nurse
S	SLT	Speech and Language Therapy
	SR	Senior Registrar
	SW	Social Worker
T	TUSLA	Child and Family Agency
U	UKAAN	United Kingdom Adult ADHD Network
V	VFC	A Vision for Change
W	WHO	World Health Organisation
	WTE	Whole Time Equivalent

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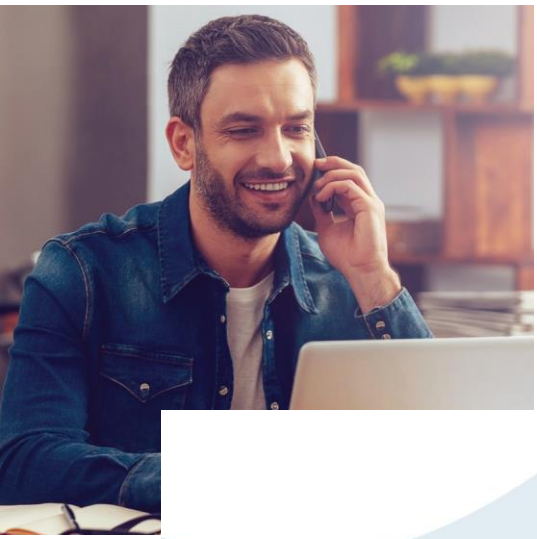

ADHD INADULTS

HSE NATIONAL CLINICAL PROGRAMME

Clinical Design & Innovation
Person-centred, co-oniinotedcare

HSE Mental Health Services