



The prevalence, risk and protective factors and service needs in relation to the co- morbidity of substance use and neurodiversity.

Dr David McDonagh
Dr Sonam Prakashini Banka-Cullen
Mr Philip James
Ms Sadie Lavelle Cafferkey
Ms Jessica Eustace-Cook
Prof Catherine Comiskey

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Trinity College Dublin
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School of Nursing and Midwifery,
Trinity College Dublin,
The University of Dublin, 24 D'Olier Street.
Dublin 2

This report was commissioned by Citywide because Community Drugs Projects had recognised a need for support to develop better service delivery for people who were neurodivergent. Citywide Drugs Crisis Campaign is a national network of community activists and organisations involved in responding to issues of drug use. It works to develop local community capacity to respond to drugs issues, to support and network local groups working on drugs issues, to lobby on policy issues and play a representative role for the community sector on policy bodies, and to encourage an inter-agency and inter-sectoral response to drugs issues. It supports a community development response to drugs issues.

The views expressed in this report are those of the authors and do not necessarily reflect the views or policies of the sponsors.

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Preface

This is the story of a client who had challenges with alcohol and other substances. This story provides a good illustration of a person-centred and holistic approach within community drug projects.

Through his song... Michael's Story

“At the beginning he wouldn't talk to anyone he couldn't engage in one to one, he'd make appointments he'd go in and he'd sit there with the key worker (would ask) you've made appointment today so is there anything in particular that you want to discuss, no, he would reply, it was all one-word stuff you kind of knew there was something that was going quite deep with him.

We were doing a piece (within the service) around music therapy, so we asked him would you like to get involved and he did. I suppose in the first session we found out more about him than we had in the previous two years. He actually sang as part of a choir...

...we found out that the reason he's is on his own is because most of his friends that he grew up with are dead and he was totally socially inadequate, in fact he fitted in nowhere and that's why he kept coming here because we left him alone we left him to sit on his own and he was that's what he wanted to do he felt that he couldn't engage with the other people because he couldn't, he didn't recognize himself as being part of that group but the fact that we left him alone and left him sitting at a table on his own, ...

... and we showed we were interested by setting up the one's to one when he didn't want to talk about anything felt uncomfortable in the one-to-one situation so we got him to start, the therapist who was running the programme got him to write a song about his about his feelings and about his life basically like I suppose in the (song) we found out more about him than, you know and he felt much more comfortable putting it into words into a music. and into a song.”



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Authors

Professor Catherine Comiskey

Professor Comiskey's research experience is in measuring and evaluating treatment and intervention outcomes and their implementation. She has special interests in substance use, infectious diseases, and children's health. In 2012, Professor Comiskey was appointed by the Department of Health to chair the National Advisory Committee on Drugs and Alcohol. In 2013, she was appointed by the EU to serve on the Scientific Committee of the European Monitoring Centre for Drugs and Drug Addiction. In 2017, she was elected as the committee's Vice Chair and in 2020 she was elected as Chair. Professor Comiskey is also the sole academic advisor appointed by Minister of State to the Oversight Committee responsible for the implementation of the National Drug Strategy.

Dr David McDonagh

Dr McDonagh has over thirty years of experience as a senior business and sales manager working in a demanding sales and marketing driven environment. Dr McDonagh is currently working as a post doctorate research fellow in the Institute of Population Health, School of Nursing and Midwifery, Trinity College Dublin. Dave is a graduate of the Marketing Institute of Ireland, has a BA(Hons) in Psychology, and PhD in Psychology focusing on people in opiate substitute treatment. Over the past seven years, Dave has worked as a field researcher with Professor Comiskey, conducting a range of sensitive interviews involving questions on relating to drug use, and associated risk factors among people who use opiates and other drugs.

Dr Sonam Prakashini Banka-Cullen

Dr Banka-Cullen's research experience is in health promotion, health psychology, service and intervention evaluation, child mental health and physical health, statistical modelling, depression, obesity, and substance use. Dr Banka-Cullen is currently employed as a research fellow and project manager in the Institute of Population Health, School of Nursing and Midwifery, Trinity College Dublin. Dr Banka-Cullen also has a BA(Hons) in Psychology, PhD in Psychology focusing on child health, PG

Certificate in Statistics, PG Certificate in Innovation and Entrepreneurship, and a H. Dip in Data Analytics in Science.

Mr Philip James

Mr James is an Assistant Professor in Mental Health Nursing and a trained as a psychiatric nurse. He was appointed as the first Clinical Nurse Specialist in Adolescent Substance Misuse in 2006 and worked in the HSE's Youth Drug & Alcohol (YoDA) service. He is trained in Motivational Interviewing, Adolescent Community Reinforcement Approach (ACRA) and Rational Emotive Behavioural Therapy (REBT). In 2016 he established the HSE's treatment service for teenagers with substance use problems in Louth / Meath, the Substance Use Service for Teens (SUST). Mr James has published various research articles and four book chapters. He was lead author of The Handbook of Adolescent Substance Use and was nominated for the British Medical Association book awards in 2014. Mr James has an MSc. in Nursing, an MSc. in Addiction Recovery is currently undertaking a PhD in substance use treatment for adolescents.

Ms Sadie Lavelle Cafferkey

Ms Lavelle Cafferkey is a registered nurse and midwife with experience in working with both vulnerable adults and neonates in an acute hospital setting. She has special interests in substance use, infectious diseases, and mental health. Sadie has recently completed an MSc. in Addiction Recovery with the School of Medicine, Trinity College Dublin and is currently pursuing a PhD in the School of Nursing and Midwifery, Trinity College Dublin. Sadie is currently working as a part-time research assistant with Prof. Comiskey.

Ms Jessica Eustace-Cook

Ms Eustace-Cook is the Science Foundation Ireland Research Support Librarian and the School of Nursing and Midwifery Subject Librarian at Trinity College Dublin. Ms Eustace-Cook has over two decades of experience in providing support and training on a myriad of electronic resources covering multiple disciplines and conducting systematic reviews.

Executive Summary

The World Health Organization defines neurodevelopmental disorders as cognitive and behavioural conditions arising during a child's development. These include autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD). ADHD involves a persistent pattern of inattention and/or hyperactivity-impulsivity, negatively affecting academic, occupational, or social functioning. ASD includes difficulties with social communication and interaction, alongside repetitive and inflexible behaviours, interests, or activities. There is a growing shift to emphasise biopsychosocial protective factors, especially in the context of increasing co-morbidity between neurodiversity and substance use disorders.

The aim of this study was to provide up to date estimates of the prevalence of neurodiversity among people accessing addiction services internationally and in Ireland and to identify the risk and protective factors to inform appropriate service responses. The research used a mixed methods study design, with the data being collected concurrently. A review of the international literature was conducted systematically. A quantitative component collected anonymous survey data online from the general population. Qualitative data was collected at two levels: qualitative survey questions with the public, and qualitative data collected from ten organisations who provide support to people with substance use challenges and their families in both Dublin city and rural locations.

From the international literature a total of 154 estimates, from 32 countries dated from 1997 to 2024 were included. The meta-analysis consisted of a global sample of 56,632 individuals who were known to have used a range of substances and who were subsequently assessed for ADHD using either a clinical interview or the Adult ADHD Self-Report Scale (ASRS) screening instrument. The sample contained a minimum of 29,303 males and 13,004 females. The overall estimate of the prevalence of ADHD within this population of people who used substances was found to be 21% with a very narrow confidence interval, reflecting the large sample size used within the meta-analysis (95% CI of 20.6% to 21.3%).

When comparing rates across genders and substances, the highest rate of ADHD overall was found amongst women using benzodiazepines, this was estimated to be 39.5% (95% CI of 33.7% to 45.3%). The rates of ADHD were statistically significantly higher among males than females among those who use alcohol, who use cocaine and who use cannabis. Similarly, this study identified for the first time that the rates of ADHD are statistically significantly higher amongst females than males who used opiates.

A total of 288 participants (171 females, 113 males and 4 non-binary) from all 26 counties completed the online survey with a mean age of 42 years and a range of 18 to 83 years. Almost 62% of the participants were either married or in a relationship. Almost three quarters (73%) had attained third level education and almost half (49%) were in full time employment. A total of 91 participants (32%) said they had been in treatment for drug or alcohol problems at some stage in their lives and 63 (22%) people said they were currently in some form of treatment for substance use, with 18 respondents attending multiple treatment services.

The prevalence of ADHD among the survey participants was 51% with a 95% CI of 45% to 57%. Given gender, prevalence rates were 54% among males and 46% among females. The prevalence of ASD among the survey participants was 37% with a 95% CI of 32% to 43%. Given gender, the prevalence rates were 33% among males and 39% among females.

A Pearsons Chi Squared test for association found a statistical difference between the heterosexual and LGBTQI+ groups, with the prevalence of ADHD (64%) higher among the LGBTQI+ group, ($\chi^2 (2, N = 288) = 8.527, p = .003$). Furthermore, a Pearsons Chi Squared test also showed a significant difference between the heterosexual and LGBTQI+ groups for ASD, with the prevalence of ASD (57%) higher among the LGBTQI+ group, ($\chi^2 (2, N = 288) = 17.978, p < .001$).

A Mann Whitney U test demonstrated a significant difference between participants reporting and those not reporting substance dependence and their overall scores in the ADHD screening tool, ($U = 1350.000, Z = -3.648, p < .001$), with an average ADHD score of 15, indicating a risk of ADHD for those reporting substance dependent versus an average of 11 for those not reporting substance dependence. However, no significant difference was found between those with and without ADHD and problematic alcohol use as measured by the Audit C instrument ($p = .366$).

Cannabis was the illicit substance with the most frequent use among the sample, it was used at least weekly by 82 (28%) of the respondents. Moreover, a Pearsons Chi Sq. test found a significant association between people using cannabis at least weekly and ADHD ($\chi^2 (1, N = 288) = 8.912, p = .003$), with 64.6% of those using cannabis regularly having either a diagnosis of ADHD or screening positive for the condition.

No significant association was found between ADHD and people who have spent time in treatment and those who have not ($p = .054$). This may indicate that people experiencing ADHD and are using

substances are not necessarily entering treatment services, although they may benefit from service given their substance use.

From the qualitative interviews with service providers, it was found that the majority of service providers did not have any formal education or training in neurodiversity. Managing the needs of people who attend their services has been learned on the job using a trial-and-error approach. Communicating with and managing people with neurodiverse conditions provided a major challenge for service provider staff, particularly when providing services for people with ASD. For some service users it can take years to find an effective treatment programme based on their individual needs. Finally, the lack of a referral pathway through the Irish health system for adults who want to receive a formal diagnosis ADHD or ASD was a barrier. Providing appropriate support for those with mental health and drug and alcohol problems was raised by almost all the providers as a major issue for their service.

To enable the practical implementation of recommendations within services already dealing with many demand and resource constraints, five key and overarching recommendations are provided.

1. A gender, sexuality, and drug of choice lens to ADHD awareness

Given the findings on gender, sexuality, and drug of choice it is clear that it is important that when addressing ADHD and substance use within all services, a gender and sexuality lens is essential while also being cognisant of the high rates among men who use alcohol and women who use benzodiazepines. These factors along with one's description of one's sexuality could be viewed as triggers for staff to consider the possibility of co-occurring, potentially undiagnosed ADHD.

In summary, it is recommended that questioning for neurodiversity (ND) becomes part of the comprehensive assessment process in all settings and services and across the lifespan from early childhood services to specialised supports.

2. Modification to service process and practice to ensure culturally informed communication and non-stigmatizing, strengths-based service

Given the reduced quality of life observed within the quantitative findings and the trauma experienced by adults during their journeys through school, services, and work relationships. It is recommended that the current trauma informed approaches are expanded to include approaches suitable for

those with neurodiversity. This will include modifications to how service processes interact with those with ND and how individuals service providers work with people with ND.

In summary, it is recommended that neurodiverse informed approach and practice be established in line with and building upon trauma informed approaches.

3. Expanding existing training to include a whole service approach to immediate and long-term sustainable neurodiversity education.

To enable recommendations one and two to be realised, there is a pressing need for immediate and sustainable training and education. The findings of this report have shown that community drug services have been able to respond to the presentation of individuals with complex needs including undiagnosed neurodiverse conditions. In summary, it is recommended that in the first instance, to support staff, immediate training be provided to those in existing services, this includes staff at all levels in order to provide a 'whole service' approach, this should include family members. To ensure sustainability of this training it is further recommended that a module be provided in all relevant educational programmes in health and social care.

4. Accessing expertise and developing integrated care pathways from diagnosis to treatment to enhanced quality of life

Throughout the comments received from people who use substances and who engaged with our quantitative survey it was clear that journeys to diagnosis, treatment and ultimately to an understanding of oneself by oneself and one's family was tortuous. Service providers also spoke of frustrations and a lack of places to turn to for advice and for treatment for those that needed extra help beyond what even a ND informed service could offer. There is a need for access to expertise when service cannot cope. This recommendation brings us back to the consensus statements.

In summary, the findings of this study reflect the need and the importance of the HSE's model of care for providing appropriate assessment, screening, and interventions for people with ADHD, and we recommend that this model be rolled out with expediency and coordinated in conjunction with addiction services to ensure robust referral pathways.

5. Disseminating the Irish evidence and the international consensus statements to ensure human rights and access to evidence-based approaches.

Given the findings from the international systematic review on high rates of ADHD prevalence in some groups, the suffering identified by individuals and their families and the challenges faced by services providers and staff on a daily basis, there is an ethical onus on the Department of Health and professional accreditation bodies to disseminate the latest international consensus statements and provided continuing professional development on the diagnosis and current stimulant and other treatments for ADHD among people who use substances.

To conclude, from a policy, service, and practice level it is clear that neurodiversity and in particular ADHD is of significant concern within services who engage directly with people who use substances, we can confirm that approximately 1 in 5 people who use substances if assessed will have symptoms of ADHD. Furthermore, this rate can increase significantly given varying substances, with those using benzodiazepines exhibiting rates of more than 1 in 3. Dissemination of best practice is urgently required if healthcare practitioners and related services are to uphold human rights-based approaches for both people who use services and people who provide them.

Chapter 1: Background and introduction

1.1 Introduction

The World Health Organization (WHO) describes neurodevelopmental disorders as behavioural and cognitive disorders that occur during a baby's developmental period: these include autism spectrum disorder and attention deficit hyperactivity disorder (ADHD) amongst others (WHO, 2023). ADHD according to the WHO is characterised by a persistent pattern of inattention and/or hyperactivity-impulsivity that has a direct negative impact on academic, occupational, or social functioning. Autism spectrum disorder (ASD) constitutes a diverse group of conditions characterised by some degree of difficulty with social communication and reciprocal social interaction, as well as persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities (WHO, 2023) (see <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>). Comiskey (2024) has highlighted how this definition is being challenged to focus not so much on the negative factors but on the protectors particularly among people who use substances as the co-morbidity of neurodiversity and substance use disorder is increasing in recognition.

1.2 Background

Neurodevelopmental disorders

The WHO describes neurodevelopmental disorders as a group of behavioural and cognitive disorders which commence in childhood and inhibits the individual's "specific intellectual, motor, language and social functioning" (World Health Organisation, 2019). The overall category includes speech and language disorders, coordination disorders, Autism Spectrum Disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD). This report is primarily focused on autism and ADHD.

Autism Spectrum Disorder

ASD is characterised by persistent difficulties in the ability to initiate and sustain shared social interactions and communications (World Health Organisation, 2019). Features of ASD include difficulties in responding appropriately, understanding non-verbal communication such as body language and facial expressions or maintaining peer relationships. In addition to these challenges in interactions, repetitive or stereotypical behaviours, ongoing preoccupation with special interests or hyper or hypo sensitivity to various stimuli may present (World Health Organisation, 2019). ASD is by definition a lifelong disorder, but the presentation of symptoms can vary in different contexts, for example being employed in an occupation where there is little interaction may mask many symptoms.

The diagnosis of Asperger's has been discontinued and has been subsumed into the spectrum of ASD (Greaves-Lord et al., 2022).

Globally ASD has a prevalence rate of 0.7% with the rate in Europe (0.5%) and Asia (0.4%) considerably lower than Africa (1%), America (1%) and Australia (1.7%) (Salari et al., 2022). It is accepted that ASD is underreported for various reasons including shortages in the technical skills or training to diagnose, as well as differentiating ASD from other neurodevelopmental disorders and concerns regarding gender and social-cultural influences (Hus & Segal, 2021). Rates of ADHD among children with ASD have been reported as being between 37% and 85% (Leitner, 2014). Diagnosing ASD in adults is considerably more difficult with less research and tools available to aid diagnosis (Gillespie, 2023). A previous systematic review reported prevalence of substance use disorders ranging from 1.3% to 36% among those with ASD but concluded that due to the differences in the studies they were unable to calculate a pooled prevalence rate (Ressel et al., 2020). There is a recognition that co-occurring substance use, and ASD is an under studied area and so more research is needed (Arnevik & Helverschou, 2016).

Attention Deficit and Hyperactivity Disorder

ADHD is a psychological disorder that has been recognised for centuries, but other terms have been used to describe it. ADHD was referred to as "Attention Deficit" by the German doctor Melchior Adam Weiklard in his textbook which was published in 1775 and is regarded as the earliest reference to ADHD in the medical literature (Martinez-Badía, 2015). Since the 1960s ADHD has been recognised as a psychological disorder but was referred to as hyperkinetic disorder and in recent years the accepted term in both the Diagnostic and Statistical Manual (DSM-5) and the International Classification of Diseases (ICD-11) is ADHD.

The explanation of ASD and ADHD using the DSM criteria is clear and easy to follow, but we recognise that on how it might resonate with individuals. It can be said that the DSM tends to frame neurodivergence in terms of "faults" within a social context, focusing on how well one aligns with societal norms. The perspective may feel reductive, as it overlooks the diversity of how one might think and experience the world. While the DSM evolves over time, there is already research highlighting how this deficit-based framing can be damaging—for instance, possibly leading to self-medicating behaviours in an effort to conform (ShatterBox, Private Communication, 2024).

ADHD primarily has three cluster of symptoms: hyperactivity, inattention, and impulsivity. However, in many descriptions the hyperactivity and impulsivity are clustered together as hyperactivity/impulsivity. These two symptom clusters allow for ADHD to be divided into three subtypes based which symptoms predominate: predominantly hyperactive / impulsive, predominantly inattention or a combined presentation where both clusters are present to a clinically significant level (World Health Organisation, 2019).

A recent meta-analysis reported that the prevalence of ADHD is 7.2% among children and adolescents and 2.5% for adults (Chaulagain et al., 2023). An Irish study assessed for ADHD among 243 patients attending psychiatric outpatient clinics and reported that 23.9% has symptoms of ADHD with none currently being formally diagnosed with it (Syed et al., 2010). The long-term outcomes for those with ADHD are considerably poorer than those without the disorder with increased odds of early school leaving (OR=3.7), having another mental health or substance use disorder (OR = 2.3), arrest (OR = 2.4) and being unemployed (OR = 2.0).

Diagnosis of ADHD

Diagnosis of ADHD requires the person to display the symptoms for at least six months, in several settings and for the symptoms to cause clinically significant impairment (World Health Organisation, 2019). It is widely accepted that the symptoms can manifest in different ways among different people and in different contexts. For example, inattention symptoms are often less noticeable during activities the individual finds stimulating or rewarding. Someone with ADHD who likes football may have little difficulty focusing on a match for 90 minutes but struggle to focus for even 10 minutes in mathematics class.

Traditionally the symptoms of ADHD had to onset before age seven but in recent iterations of the diagnostic criteria this has been raised to 12 years old. This does not mean that the diagnosis cannot be made after this age but there must be signs (not necessarily a diagnosis) of the symptoms before this age. When making the diagnosis of ADHD it is necessary to ensure that the symptoms are not better accounted for by another disorder, or a substance or medication the person is taking (World Health Organisation, 2019). This makes the assessment of ADHD in adults complicated as firstly the assessment must demonstrate that the symptoms are currently present. The earlier meta-analysis reported that while 6.76% of adults globally present with ADHD, only 2.58% meet the criteria when these other factors are taken into consideration (Chaulagain et al., 2023). Secondly there must be evidence that the symptoms were present prior to age 12. Di Lorenzo et al., (2021) found that when

children are followed into adulthood a mean of 43% still met criteria with higher rates (55%) in studies after 2011 compared to studies before 2011 (34%).

Among the substance using population the diagnosis is even more complicated as the symptoms of inattention, restlessness, agitation etc. may be attributed to the substance rather than ADHD. To address this, it has been recommended that the assessment focus on substance free periods and consider offering treatment with ADHD symptoms are present and clinically significant (Crunelle et al., 2018). However, there are new evidence emerging which is challenging this (Heval Özgen et al., 2020).

1.3 Aims and objectives

The aim of this study is to provide the prevalence, the risk and protective factors, and the service needs in relation to the co-morbidity of substance use and neurodiversity. The main objectives were:

1. To conduct a review of the international literature on prevalence rates, risk, and protective factors of people who are/have been in addiction treatment and are neurodivergent.
2. To assess the prevalence of ADHD and ASD from an online anonymous sample of people who have received services for substance use.
3. To assess service user's needs within the online anonymous survey sample using open ended questions.
4. To assess service needs from a sample of policy makers and service providers.

Chapter 2: Methodological Approach

The current study was designed firstly, to provide an estimate of the prevalence of neurodiversity among a sample of people who use drugs and alcohol and secondly, the study seeks to understand how addiction support services are responding to the needs of their clients with diagnosed and undiagnosed neurodiverse conditions, and the need and current practices of the addiction service providers. To provide an estimate of the prevalence of substance use and neurodiversity, a systematic review was conducted. The quantitative stage, which also provided a prevalence rate, was conducted in parallel with the qualitative stage and involved collecting data anonymously from a sample of the general population. The qualitative stage was conducted among a sample of service providers and family support members.

2.1 Study design and method

The research is delivered using a mixed methods multilevel convergent design, with the data being collected concurrently.

2.1.1 Evidence review

A literature review with a systematic approach was conducted to provide and to determine the prevalence rates of neurodiversity among people who use substances. The criteria for the review were set out using the PEOS format and following parameters were applied:

- **Population:** Individuals who use substances
- **Exposure:** Assessment or diagnosis of ADHD and or ASD
- **Outcomes:** Prevalence
- **Setting:** All healthcare settings including acute hospitals, community healthcare settings and prison healthcare settings
- **Study designs:** All study designs

The following databases were searched; CINAHL Ultimate, Medline, PsycINFO, Embase and Web of Science with four mains concepts and these were “Prevalence” AND “Neurodiversity: ADHD and/or ASD” AND “Risk and protective factors” AND “Addiction and Substance abuse.”

With regards to the screening process of the literature, this was conducted by four reviewers. Three reviewers conducted the Title and Abstract Screening, and two reviewers completed the full-text

screening. Finally, conflicts were resolved by the fourth reviewer. The PRISMA Flow Chart (see Figure 1) outlines how many articles were screened, read by full text, and finally, the definitive number used in this systematic review.

All attempts were made to obtain full texts of selected articles, by searching the web, engaging with the librarian collaborator, or contacting the author if necessary. The latter two steps were not required due to the considerable collection and resources of the library at Trinity College Dublin which enhanced this process. The selection process followed the recommendations in the PRISMA checklist and has been mapped using the PRISMA flow diagram (see Figure 1).

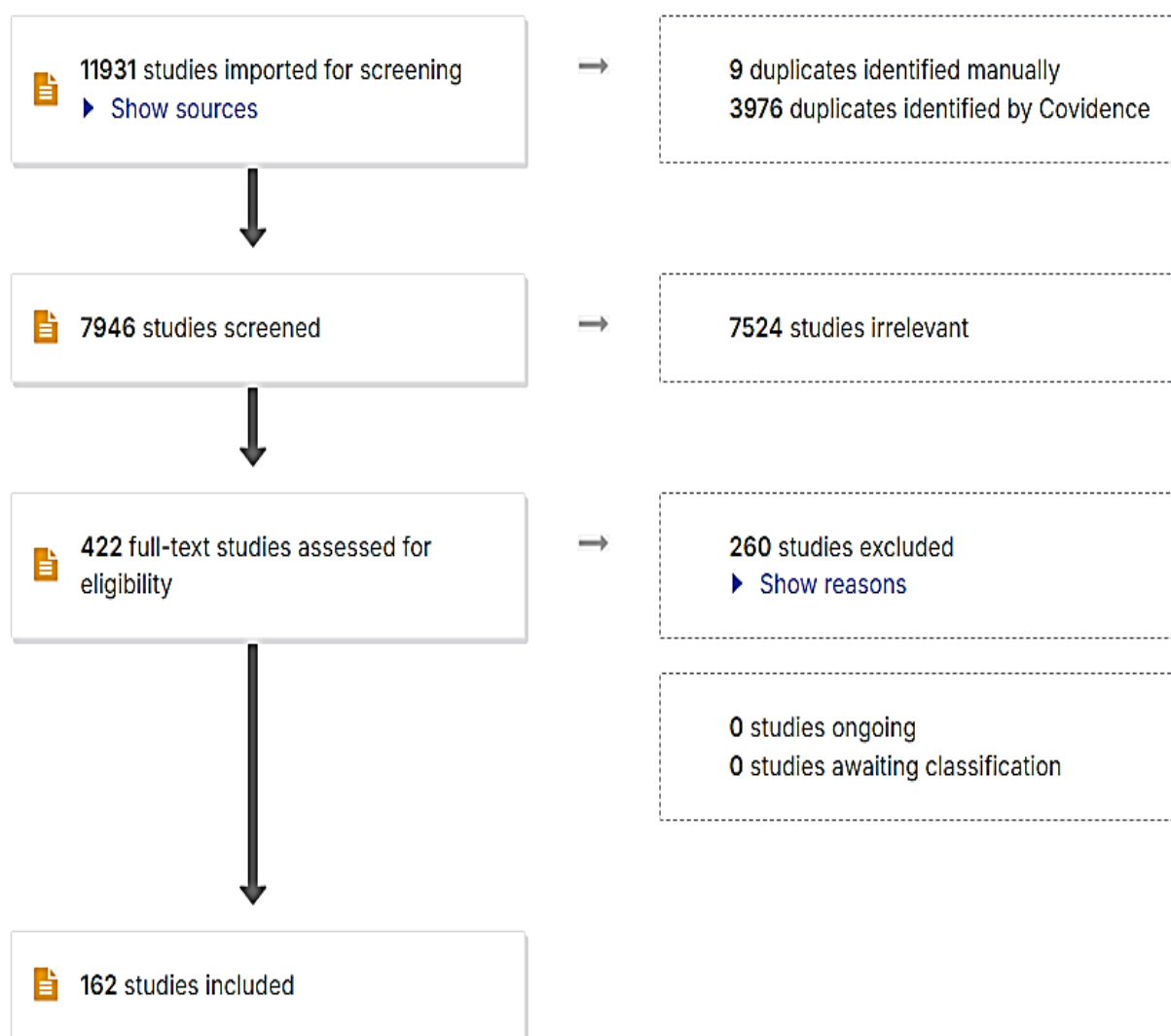


Figure 1: PRISM Flow Diagram for the Review

2.1.2 Quantitative methods

The quantitative component collected anonymously using Survey Monkey, an online data collection tool. The survey used instruments to collect background demographic data on the respondents and provided indicators for the prevalence estimate of neurodiverse conditions, dyslexia, epilepsy, ADHD, and ASD. Indicators were also included to measure alcohol use and a range of different drug substances among the sample. The survey incorporated the WHOQOL, a WHO instrument to measure the Quality of Life of the respondents. In total 288 people consented to participate in the study and completed the online survey.

The quantitative research instruments included a demographic profile questionnaire which was specifically developed for this study. A range of data was collected within the survey instrument on the participants background including, age and gender, educational attainment, current employment situation, relationship status, substance use, and treatment history (see Appendix 1). The research tools also included three psychometric instruments to measure the prevalence of ADHD and Autism and the quality of life of the participants. The ASRS-5 is a validated self-reporting ADHD screening scale to assess symptoms of attention deficit and hyperactivity intended for people aged 18 years or older (Somma, et al. 2021): The AQ10, is a short, validated questionnaire that practitioners can use which is intended for use among adults with suspected autism spectrum disorder (Kent, et al., 2018): WHOQOL-BREF developed by the WHO provides a measure of a person's quality of life (QoL) through four domains, physical health, psychological health, social relationships and the environment (see Appendix 1).

2.1.3 Qualitative methods

Qualitative data was collected at two levels. Firstly, the online survey provided respondents the opportunity to contribute additional information of their experiences of working with drug and alcohol treatment and support services using two opened questions. Furthermore, participants were also provided with options to add comments to some of the questions asked in the anonymous survey. Secondly, qualitative data was also collected from ten organisations who online provide support to people with substance use problems and their families in both Dublin City and rural locations. Additionally, interviews were also conducted among four family members, three of whom were attending a family support service at the time of interview. This part of the survey enabled service providers and family members the opportunity to share their experiences of working with and supporting people with neurodiverse conditions who have substance use challenges, through eight semi-structured and open-ended questions (see Appendix 2). This element of the overall study was

completed in August 2024 (n= 21). It was designed to provide an understanding of awareness of neurodiversity among service providers, the key treatment needs of neurodiverse people and an understanding of the level of neurodiverse training among people working within support services.

The schedule was designed to better understand the needs of people with substance use disorders and neurodiverse conditions. Two of questions asked are, *“In your opinion, what are the key needs of people with neurodiversity and substance use addictions?”* and *“What services/ resources to you think your service needs to support ND people.”*

Following the analysis of all the data sets, the findings from the two stages were merged and are presented in this final report, including the systematic review findings. The overarching findings and their implications across the various services areas and functions, provides an understanding of the prevalence of neurodiverse conditions among a broad spectrum of people which is also connected with the need to self-medicate using a range of different substances. The research methods process diagram below provides a visual representation of the research design and its delivery (Figure 2).

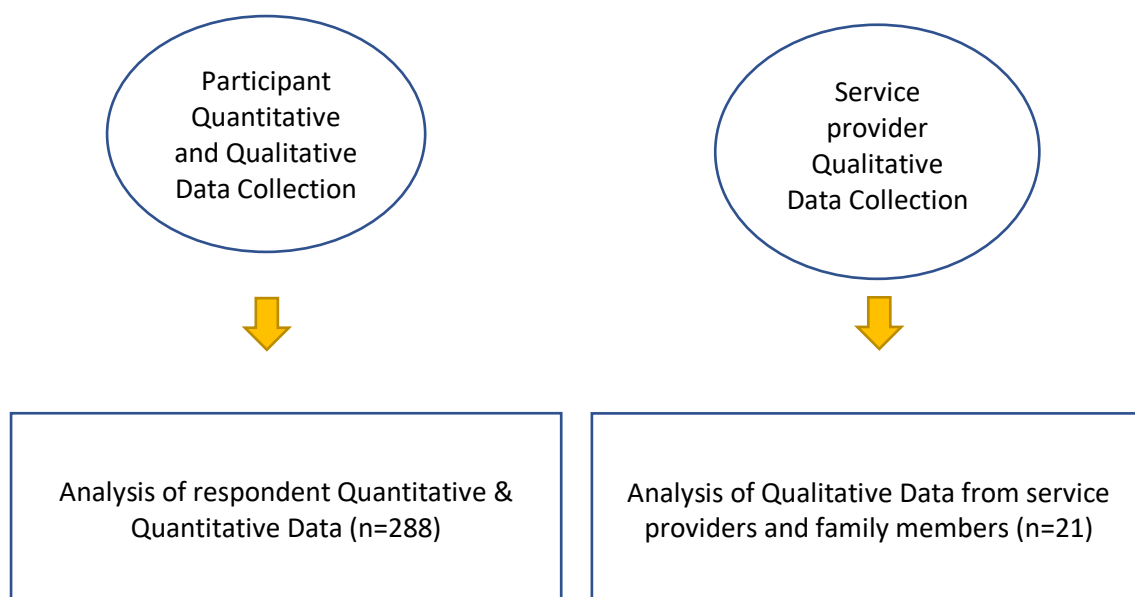


Figure 2: Mixed Methods Research Process Diagram

2.2 Data analysis plan

The aims of the quantitative statistical analyses are to present average scores and measures of spread in the data, the relationships between different variables or factors collected using the survey instruments, (see Chapter 4) and differences between the groups. Therefore, several statistical methodologies were employed for data analysis. The demographic information for participants is presented in percentages, frequencies and where applicable using the average or mean score and the variation from the mean is presented using the standard deviation (SD). For example, the average age of the participants in the study was 42 years with an SD of 12 years, meaning that the ages of 68% of participants varied between 30 years (42-12) and 54 (42+12) years of age. Differences between groups were computed using Mann Whitney U tests and associations for categorical variables were computed using Pearson's Chi Sq. All statistical analysis was conducted in SPSS version.28 (IBM Corp, 2019) with significant results reported in Chapter 4.

The purpose of the qualitative analysis is twofold. Firstly, to provide an explanatory context to the quantitative study through analysing the comments participants gave in response to the qualitative questions asked using content analysis. Content analysis is a research tool used to present the presence of certain words, themes, or concepts within a given data set (Stemler, 2015). The current study used themes to present this data. Secondly, to analyse the responses from the service providers and family support members in order to understand their perspective of the needs of people with substance use problems who are neurodiverse. This data is presented in themes using the stages for thematic analysis (Braun & Clarke, 2021)

The six steps for conducting thematic analysis outlined by Braun and Clarke are: Familiarise oneself with the data: 1. Create initial codes: 2. Search for themes: 3. Review these themes: 4. Refine the themes: 5. Define these themes and name themes: 6. Produce a report on the themes supporting them with quotes. A theme is an outcome of coding of the data and should occur several times within the data set. This analysis followed the deductive method and driven by a detailed analysis of the main aspects of inquiry of the data contained in the schedule of questions (see Appendix 2). For example, a common theme which emerged from the data set evolved around the lack of formal training among service providers: One question asked, *"Have you been able to provide training for your staff in neurodiversity awareness/ working with neurodiverse people."* Participant response: *"Just what I have learned through working with, (people) so I don't know whether I may not be right, but it's from what I've got [from my own experience]."* The findings from the thematic analysis are presented in Chapter 5.

Chapter 3: Systematic review findings of the co-occurrence of substance use and neurodiversity.

3.1 Introduction

This chapter provides both an overview and detailed findings on the international prevalence of ADHD among people who use substances. Rates are also provided for the first time, by gender, by drug type and by the combination of drug type and gender.

3.2 Demographics

A total of 162 papers had their full text reviewed and data extracted by three authors (SB-C, PJ, and CC). Duplicate papers were removed. Papers which did not contain sufficient data for an estimate of the proportion of people with ADHD or ASD and who were using substances were also removed. Only one paper (Mutiso et al., 2023) reported on number with ASD and therefore a meta-analysis of the prevalence of ASD was not possible. A further paper by Young et al (2015) reporting on case finding from a commercially insured health system database was also removed. This paper did not meet the inclusion criteria of an assessment or a diagnosis of ADHD within the cohort of people using substances. The remaining 154 studies were included in the meta-analysis. These papers were dated from 1997 to 2024 and included 32 countries. The papers included a combined sample of 56,632 individuals. Not all papers reported on gender and where gender was reported in the sample the proportions with an assessment or diagnosis of ADHD was not always reported. Consequently, it can only be reported that the papers included a minimum of 29,303 males and 13,004 females. All papers included in the study reported on those aged over 18 years.

3.3 Proportions with ADHD by gender

It is important to note that the articles reviewed only defined gender as male or female and in some cases no information on gender was provided. Overall, of the 56,632 individuals who used substances 11,874 (21%) were assessed or diagnosed as having ADHD. Of the 29,303 males, 1,463 (15%) were assessed or diagnosed as having ADHD and of the 13,004 females, 1,463 (11%) were assessed or diagnosed as having ADHD. The detailed proportions and their 95% confidence intervals are presented in Table 1.

Table 1: Proportion of people who use substances and who were assessed or diagnosed as having ADHD by gender.

All substances	Proportion with ADHD	Lower 95% CI	Upper 95% CI
Total Sample	21.0	20.6	21.3
Total Male	15.3	14.9	15.7
Total Female	11.3	10.7	11.8

The highest proportion identified across the 154 studies occurred within Turkey from a cross sectional study published in 2022 with a sample of 101 people in a probation drug addiction programme. The types of drugs used were not listed. Of the 101 participants included, 68 (67%, with a 95% CI of 58% to 76%) screened positive for ADHD using the ASRS screening tool (Akalin & Bilici, 2022). Diagnosis was confirmed with a clinical interview. The lowest prevalence rate was identified in a 2013 study on poly substance use within a centre described by the authors as a “regional drug de-addiction centre in chronic conflict area: Kashmir, India.” A total of 198 men were included in the study and five (2.5% with a 95% CI of 0.3% to 4.7%) were identified as having ADHD.

3.4 ADHD by drug type and by gender

A total of 42 studies from 17 countries from 1997 to 2023 provided details on ADHD among those using alcohol. Three studies from two countries, Italy, and Spain from 2017 to 2019 reported on benzodiazepine use. Twelve studies from six countries (France, French West Indies, Italy, Spain, Switzerland, and the USA) from 1998 to 2023 reported on cocaine use. Four papers (representing three studies) from 2011 to 2020, based in Turkey, America and Germany provided details on ADHD among people using cannabis. Finally, 26 studies from 17 countries from 1999 to 2023 provided estimates on opiates. These included, heroin, methadone, and other opiates. The numbers of individuals in total and by gender where gender was stated for each of these substances is provided in Table 2.

Table 2: Number of people using a range of substances and numbers assessed or diagnosed with ADHD by gender.

	Total Sample size	Number of Men, Number of Women	Number of men with ADHD, Number of women with ADHD	Total Number with ADHD
Alcohol	9725	3958, 1368	961, 183	1959
Cannabis	8060	4625, 3145	713, 221	1065
Benzos	649	289, 271	101, 107	229
Cocaine	1960	1352, 318	212, 23	370
Opiates	6585	4467, 1421	488, 215	1328

Table 3 provides for the first time, an international metanalysis of the prevalence of ADHD by use of drug type and by gender.

Table 3: Meta-analysis of the proportions and their 95% confidence intervals of people who use a range of substances and assessed or diagnosed with ADHD by gender.

Substance	Estimate	Lower 95% CI	Upper 95% CI
Total Sample Alcohol	20.1	19.4	20.9
Total Male Alcohol	24.3	22.9	25.6
Total Female Alcohol	13.4	11.6	15.2
Total Sample Cannabis	13.2	12.5	14.0
Total Male Cannabis	15.4	14.4	16.5
Total Female Cannabis	7.0	6.1	7.92
Total Sample Benzos	35.3	31.6	39.0
Total Male Benzos	35.0	29.5	40.5
Total Female Benzos	39.5	33.7	45.3
Total Sample Cocaine	18.9	17.2	20.6
Total Male Cocaine	15.7	13.8	17.6
Total Female Cocaine	7.2	4.4	10.1
Total Opiate Sample	20.2	19.2	21.1
Total Male Opiates	10.9	10.0	11.8
Total Female Opiates	15.1	13.3	17.0

3.5 Discussion and conclusion

This systematic review and meta-analysis focused on estimating the prevalence of ADHD and ASD in people who use substances as opposed to focusing on substance use among those assessed or diagnosed with ADHD or ASD. Given the small number of papers reporting on ASD an analysis of this was not possible.

A total of 154 estimates, from 32 countries dated from 1997 to 2024 were included. The meta-analysis consisted of a global sample of 56,632 individuals who were known to have used a range of substances and who were subsequently assessed for ADHD using either a clinical interview or the adult ASRS screening instrument. The sample contained a minimum of 29,303 males and 13,004 females. The overall estimate of the prevalence of ADHD within this population of people who used substances was found to be 21% with a very narrow confidence interval, reflecting the large sample size used within the meta-analysis (95% CI of 20.6% to 21.3%). This finding concurred with Rohner et al (2023) and confirms their estimate. Within that meta-analysis a total of 31 studies with 12,524 individuals were included and the prevalence rate of ADHD in patients with Substance Use Disorder (SUD) was estimated to be 21% (95% CI = [0.1741; 0.2548]). The wider confidence interval reflecting the smaller sample size within that study's meta-analysis.

While estimates of prevalence are provided by drug type within the present study, the key findings are the first ever results on statistically significant rates of ADHD between genders given the substance used. This review has identified that the rates of ADHD are statistically significantly higher among males than females who use alcohol, who use cocaine and who use cannabis. Similarly, this study has identified for the first time that that rates of ADHD are statistically significantly higher amongst females than males who used opiates. While ADHD rates amongst women who use benzodiazepines were also higher than that found among men, this finding, while clinically important was not statistically significant. It is possible that this may be due to the smaller number of studies and resulting smaller sample sizes included with people who use benzodiazepines. Furthermore, when comparing rates across genders and substances, the highest rate of ADHD overall was found amongst women using benzodiazepines. The lowest rates were found amongst women using cannabis and cocaine, two drugs where male rates were statistically significantly higher. The highest rates of ADHD for males were observed amongst males who used benzodiazepine and who used alcohol.

These new and important findings on ADHD prevalence rates within gender, across varying substances builds upon and expands the earlier work Rohner et al 2023. Those authors found ADHD prevalence

of 25% (95% CI = [0.1845; 0.3360]) for those who use alcohol. For those who use cocaine an ADHD prevalence of 19% (95% CI = [0.1058; 0.3102]) was found and for those who use opiates an ADHD prevalence of 18% (95% CI = [0.0784; 0.3505]) was computed. It can be seen from these three estimates that the confidence intervals are wide reflecting the heterogeneity in the studies included and the smaller sample sizes. In summary, Rohner et al 2023 estimated an ADHD prevalence of 19% for the cocaine SUD population, 18% for the opioid SUD population, and 25% for the alcohol SUD population. It can be seen from Table 3, that within the present study the estimates of ADHD prevalence within those who use cocaine was 19% concurring with Rohner et al 2023, the estimate within people who use opiates was 20% also concurring. In addition, the 95% confidence intervals of Rohner et al 2023 and the present study overlap.

The estimate for those who use alcohol within the present study was a 20% and this did not concur with the estimate of Rohner et al 2023, nor did the confidence intervals for the estimate from the two studies overlap. This final estimate on the prevalence of ADHD amongst people who use alcohol may be more accurate than the prior Rohner et al 2023 estimate given the larger sample sizes and the resulting narrower confidence intervals.

From a policy, service, and practice level it is evident that ADHD is of significant concern within services who engage directly with people who use substances, we can confirm that approximately 1 in 5 people who use substances if assessed will have symptoms of ADHD. Furthermore, this rate can increase significantly given varying substances, with those using benzodiazepines exhibiting rates of more than 1 in 3. In addition, rates amongst genders differ significantly and gender focused ADHD policies and practices are urgently required within substance use services if they are to uphold human rights-based approaches for both people who use services and people who provide them.

Chapter 4: Survey findings of the co-occurrence of substance use and neurodiversity.

The aim of the quantitative online survey was to investigate the prevalence of neurodiversity, primarily, ADHD and ASD among a sample of the general population who use or have used alcohol and/or drug substances. The survey also asked respondents to provide feedback on their experiences of engaging with drug treatment and support services. The primary aim of the qualitative survey conducted among service providers and family members in drug and alcohol support services was to understand the challenges faced by services in supporting people with co-morbid harmful substance use, and neurodiverse conditions. The results of the study are divided into two parts. Chapter 4 will present the data from the online survey and describe the participants personal attributes, their current substance use, substance treatment histories, and provide data on the prevalence on neurodiverse conditions among the participants. Furthermore, the section will also contain a summary of the comments from the online participants of their experiences of working with substance use support services.

4.1 Demographic findings of the sample

A total of 288 participants completed the survey with an average age of 42 years (SD= 12 years) ranging range from 18 years to 83 years. Most of the respondents said their birth gender was female (n= 171) with an average age of 43 years, for males (n= 113), the average age was 41 years. Four respondents who identified as non-binary or other had an average age of 32 years. Almost 62% of the participants were either married or in a relationship with 5.2% of people describing their relationship as 'other' (see Table 5).

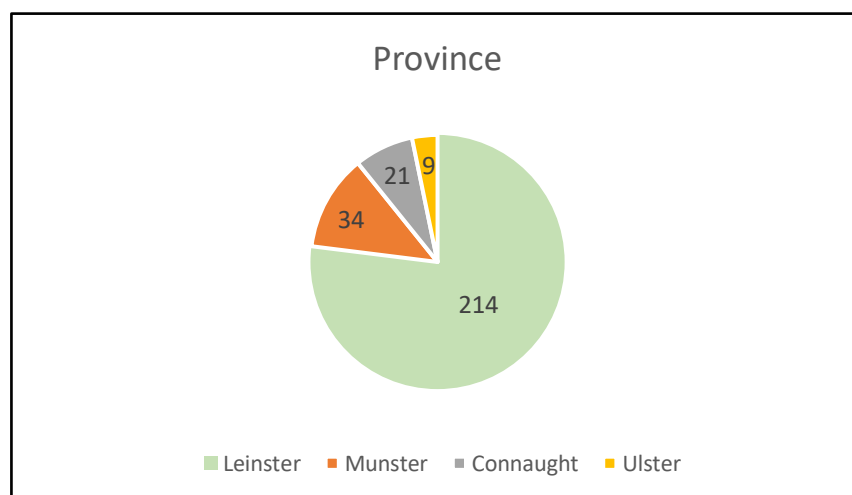


Figure 3: Province of residence.

The county of residence of the participants was distributed across all four provinces of Ireland with 26 different counties represented, the largest proportion of people 51% (n= 146) were resident in Dublin with 74% living in Leinster (see Figure 3).

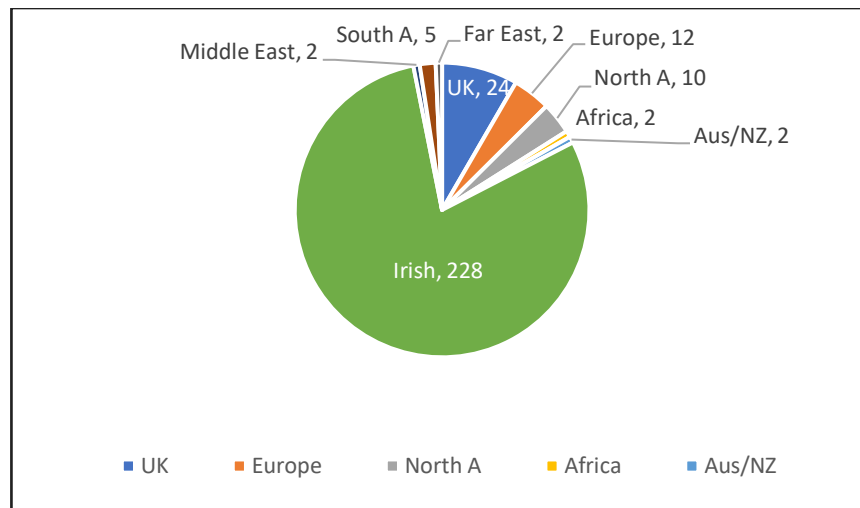


Figure 4: Country of Birth

The majority of the participants were either born in Ireland (n= 228) or UK (n= 24), and there was a representation of people born across all six continents who are living in Ireland with thirteen people born outside Europe or North America (see Figure 4). The sexual orientation of the sample is presented in table 4 below. Most of the participants identified as heterosexual (n= 211, 73.5%), with 11.5% of the respondents identifying as bisexual.

Table 4: Sexual orientation of the participants.

(n= 287)	Total (n, %)
Heterosexual	211, 73.5%
Gay	15, 5.2%
Lesbian	4, 1.4%
Bisexual	33, 11.5%
Queer	12, 4.2%
Non-Binary/other	12, 4.2%

4.2 Education and employment

The results presented in the tables in this section are divided into two groups, those who have attended treatment services and those who have not. The minimum age a participant had left school was 12 years, however the average age respondents finished their formal education was 23 years with some participants continuing their education into the later of life (range 12 years to 58 years). Table 5 shows the level of educational attainment among this sample participants, with just 11.8% of participants leaving school below upper secondary level. Moreover, 73.1% of participants attended third level college which is above the national average reported by the Central Statistics Office (CSO). The CSO census results reported that 48% of Irish people had a third level qualification in 2022 (CSO, 2022). On average females left formal education at a later age (24 years) when compared to males (21 years), furthermore, a Mann-Whitney U test found the difference to be statistically significant ($U=7683.000$, $p=.031$).

Table 5: Demographics of participants by treatment status

Ever in treatment		Yes (n, %)	No, (n, %)	Total (n, %)
Education attainment				
(n= 286)				
	No formal	0, 0%	2, 1.0%	2, .7%
	Primary education	3, 3.2%	7, 3.6%	10, 3.5%
	Lower secondary	8, 8.4%	14, 7.3%	22, 7.6%
	Upper secondary	15, 15.8%	28, 14.5%	43, 14.9%
	Third level	69, 72.6%	140, 72.5%	209, 72.6%
<i>Age completed formal education, Mean= 23.4, SD= 8.8: 95% CI, 22.33 – 24.40</i>				
Relationship status				
(n= 288)				
	Other	7, 7.4%	8, 4.1%	15, 5.2%
	Single	33, 34.7%	63, 32.6%	96, 33.3%
	In a Relationship	20, 21.1%	42, 21.8%	62, 21.5%
	Engaged	2, 2.1%	10, 5.2%	12, 4.2%
	Married/Civic	33, 34.7%	70, 42.1%	103, 35.8%
Employment				
(n= 288)				
	Not Employed	17, 17.9%	28, 14.5%	45, 15.6%
	Full Time	39, 41.1%	101, 52.3%	140, 48.6%
	Part Time	23, 24.2%	24, 12.4%	47, 16.3%
	Student	4, 4.2%	13, 6.7%	17, 5.9%
	Home Duties	3, 3.2%	11, 5.7%	14, 4.9%
	CE Scheme	1, 1.1%	7, 3.6%	8, 2.8%
	Retired	8, 8.2%	9, 4.7%	17, 5.9%
Disability Allowance (yes)		18, 18.9%	30, 15.5%	48, 16.7%

Almost a third (65.9%) of respondents were either in part time or full-time employment with 15.6% of people unemployed at the time of the survey. Additionally, 47 people (16.3%) said they were on disability benefit (see Table 5).

4.3 Substance use and treatment

A total of 91 participants (32%) said they had been in treatment for drug or alcohol problems at some stage in their lives, however only 63 people said they were currently any form of treatment with 18 respondents attending multiple treatment service. Table 6 above provides a summary of the number of participants attending each type of treatment service.

Table 6: Current treatment type

n= 63	Total (n, %)
Current Treatment	
Drugs/Chems	30, 47.6%
Alcohol	9, 14.3%
CE Drug Rehab Project	5, 7.9%
Counselling Service	25, 39.7%
Peer Support	14, 22.2%
Homeless Service	9, 14.3%

Counselling and Drugs/Chems were the most frequently attended services, furthermore, eleven of the people who reported never attending previous treatment service revealed they were taking part in some form of support service, two of these participants reported being in current drug or alcohol services, and nine participants reported attending either, counselling, peer support, CE Drug Rehab Projects, or a homeless service (see Table 6).

Table 7: Substances by preference

(n= 288)	1st Choice	2nd Choice	3rd Choice	4th Choice
Street opiates	22	1	1	2
Prescription Opiates	12	12	4	3
Cocaine	14	14	16	9
GBH/GBL	1	5	2	1
MDMA	1	8	13	9
Ketamine	1	2	7	0
Mephedrone	1	0	1	1
Poppers	0	3	3	1
Viagra	1	2	3	1
Nitrous Oxide	0	0	1	1
Cannabis	69	24	17	5
Sedatives	3	18	13	8
Alcohol	71	40	10	9

Street opiates were the substance of 1st choice for 22 participants with prescription opiates the 1st choice for 12 participants. The substance with the highest prevalence was alcohol and was the drug of 1st choice or 2nd choice for 39% (n= 111) of participants. Cannabis was the drug of 1st or 2nd choice for 93 participants (see Table 7). Of particular note is the lifetime use of cannabis, with 78% of people (n= 222) saying they had used the drug at some stage in their lives (see table 8). Moreover, question 18 in the survey provided respondents with the opportunity to state their substance of choice if it was not listed among the online survey questions. Hallucinogens, such as magic mushrooms and psilocybin were mentioned in 14 of the 19 comments provided by the participants.

Table 8: Substance use by drug type

(n= 284)	Never used	Not in past 3 months	Once or twice	Monthly	Weekly	Daily
Cannabis	62, (22%)	104, (37%)	31, (11%)	5, (2%)	19, (7%)	63, (22%)
Cocaine	133, (47%)	108, (38%)	19, (7%)	8, (2.8%)	10, (3.5%)	6, (2%)
Street Opiates	221, 78%)	51, (18%)	4, (1.4%)	0, (0%)	1, (0.4%)	7, (2%)
Other Opiates	173, (61%)	72, (25%)	12, (4%)	2, (0.7%)	3, (1.1%)	22, (8%)
Sedatives	154, (54%)	80, (28%)	24, (8%)	6, (2%)	10, (3.5%)	10, (3.5%)
Methamphetamine	221, (78%)	49, (17%)	6, (2.1%)	2, (0.7%)	3 (1.1%)	3, (1.1%)
GBH/GBL	226, (80%)	48, (17%)	4, (1.4%)	3, (1.1%)	2, 0.7%)	1 (0.4%)
Stimulants	214, (75%)	54, (19%)	8, (3%)	2, (1%)	0, (0%)	6, (2%)

Respondents were asked if they considered themselves dependent on alcohol or drugs. Forty-one participants said “yes”, interestingly 33 of these respondents said they had never attended a drug or alcohol treatment service with 31 people providing additional comments to the question 23, “Do you consider yourself dependent on drugs or alcohol.” A selection of the comments is provided below. The full list of responses is provided in Appendix 3.

“I was always hard on myself for drinking, but it turned out I had ADHD put on meds and I stopped drinking thanks to my counsellors help.”

“I’m an alcoholic in recovery.”

“I consider Marijuana to be medicine to treat my anxiety.”

“I can use alcohol as a crutch when I am stressed. I am currently drinking more than I normally would be due to stress”.

Table 9: Frequency of alcohol use

(n= 288)	Never	Less than monthly	Monthly	Weekly	Daily
Alcohol	117 (40.6%)	93 (32.3%)	33 (11.5%)	35 (12.2%)	10, (3.5%)

The respondents were also asked *“How often do you have a drink containing alcohol?”*, 41% of respondents saying “never” with almost 16% saying weekly or daily (see Table 9). Furthermore, the Audit-C screening questionnaire showed that 27% of all participants (n= 78) were engaged in high-risk drinking.

In response to question 29, “Are you self-medicating ADD/ADHD symptoms” a number of people indicated they were in addiction recovery with 27 participants saying they were self-medicating their ADHD symptoms, using a range of substances with cannabis being the most frequently quoted substance, mentioned by almost 50% of the 31 respondents to this question. A selection of responses is provided below. The full list of comments is provided in Appendix 3.

“2.5mg to 5mg dexamphetamine daily 1x in the morning”

“Cannabis, Adderall, and Ritalin”

“Cannabis is one of the few things I have found that makes my brain quiet.”

“Occasional benzo for racing thoughts... when I want to sleep.”

4.4 Neurodiversity prevalence rates and gender

Table 10 below presents the findings on the prevalence of neurodiverse conditions among the study sample. The prevalence of dyslexia at 7% was below the international average of 10% reported by Dyslexia Ireland (2024). However, the prevalence of epilepsy at 3% is higher than the reported national average for Ireland of 1% (Linehan, et al., 2009).

Many participants in this study did not have a formal clinical diagnosis of ADHD or ASD, therefore, the survey used screening tools to provide an estimate of these neurodiverse conditions among the respondents. After combining the data of those with a formal diagnosis of ADHD/ASD and those who screened positive for the either condition, the prevalence of ADHD was shown to be 51% (n= 146) of the total sample. For ASD the prevalence was shown to be 37% (n= 106). Furthermore, by combining the statistics for both the risk of ADHD and ASD, it was shown that 77 participants, 27.7% of the survey sample were at risk of having both conditions co-morbidly (see Table 10).

Table 10: Prevalence of Neurodiversity

(n= 288)		Male (n, %)	Female (n, %)	Total (n, %)
Dyslexia (Yes)		14, 4.9%	11, 3.8%	25, 7%
Epilepsy (yes)		2, 1.2%	6, 3.5%	8, 2.8%
ADHD (yes)				
	ADHD Diagnosis	27, 24%	35, 20%	63, 22% *
	Screen positive #	34, 39%	46, 37%	83, 29% *
	ADHD Totals	61, 54%	81, 47%	146, 51%
95% CI, 0.45 – 0.57				
Autism, ASD (yes)				
	ASD Diagnosis	11, 10%	27, 16%	41, 14%*
	Screen positive ^	26, 28%	39, 30%	66, 23%*
	ASD Totals	37, 33%	67, 39%	107, 37%
95% CI, 0.32 – 0.43				
ADHD & Autism (yes)		29, 26%	45, 26%	77, 27% *
95% CI, 0.22 – 0.32				
* Includes non-binary/other participants.				
# n= 214 completed the screening test				
^ n=226 completed the screening test				

No significant biological gender associations were found for ADHD ($p = .162$) or for ASD ($p = .256$) between males and females. However, a Pearsons Chi Sq. test for association found a statistical difference between the heterosexual and LGBTQI+ groups, with the prevalence of ADHD (64%) higher among the LGBTQI+ group, ($\chi^2 (2, N = 288) = 8.527, p = .003$). Furthermore, a Pearsons Chi Sq. test also showed a significant difference between the heterosexual and LGBTQI+ groups for ASD, with the prevalence of ASD (57%) higher among the LGBTQI+ group, ($\chi^2 (2, N = 288) = 17.978, p < .001$).

Table 11 presents the prevalence of ADHD and ASD split between those who have attended substance use treatment and those who said they never attended treatment. However, no statistical difference was shown between these two groups and ADHD ($p = .054$), or for ASD ($p = .746$).

Table 11: Prevalence of Neurodiversity among those who have and have not attended SUD treatment.

(n= 288)		Yes (n, %)	No (n, %)	Total (n, %)
ADHD (yes)				
	ADHD Diagnosis	18, 21.4%	45, 22.1%	63, 22%
	Screen positive	32, 49.2%	51, 34.2%	83, 29%
	ADHD Totals	50, 60.7%	96, 47.1%	146, 51%
Autism, ASD (yes)				
	ASD Diagnosis	11, 13.3%	30, 15.5%	41, 14%
	Screen positive	19, 27.5%	47, 29.9%	66, 23%
	ASD Totals	30, 33%	77, 39%	107, 37%
ADHD & Autism (yes)		26, 31.0%	51, 25.0%	77, 26.7%

4.5 Neurodiversity and substances used

A formal diagnosis of ADHD was reported by 22% ($n = 63$) of the sample participants with 54% of these participants ($n = 34$) disclosing they were on ADHD medication. Strattera (Atomoxetine), Ritalin, Concerta, and Tyvense were the most cited medications.

As presented in Table 8 above, cannabis and alcohol were the substances with the highest prevalence rates observed among the sample. Furthermore, 41 participants said they were dependent on alcohol or drugs. A Pearson's Chi Sq. test of association found a significant relationship between people who said they were dependent on alcohol or drugs and who were found to be at risk of ADHD using the combined ADHD totals presented in table 10 above ($\chi^2 (2, N = 288) = 18.237, p < .001$). However, when looking at people who had a formal diagnosis no significant association was shown for people clinically diagnosed with ADHD and self-reported substance dependence ($p = .827$), or between substance dependence and having a clinical diagnosis of ASD ($p = .281$).

A Mann Whitney U test did show a significant difference between those with substance dependence and those not reporting dependence and their overall scores in the ADHD screening tool, ($U = 1350.000, Z = -3.648, p < .001$), with an average ADHD score of 15, indicating a risk of ADHD for those reporting substance dependent versus an average of 11 for those not reporting substance dependence. However, a significant difference was not found between those with and without ADHD and problem alcohol use as measured by the Audit C instrument ($p = .366$). Also, no association was

shown between ADHD and people who have spent time in a treatment and those who have not been in treatment for substance dependence ($p = .817$).

Cannabis was the illicit substance with the most frequent use among the sample, it was used at least weekly by 82 of the respondents. Moreover, a Pearson's Chi Sq. test found a significant association between people using cannabis at least weekly and ADHD ($\chi^2 (1, N = 288) = 8.912, p = .003$), with 64.6% of those using cannabis regularly having either a diagnosis of ADHD or screening positive for the condition. However, no association was shown between ASD and regular cannabis use ($p = .885$).

A small number of participants offered a brief explanation to question 14 on their current treatment and a selection of responses are provided below. The full list of comments is provided in Appendix 3.

"I was always hard on myself for drinking, but it turned out I had ADHD put on meds and I stopped drinking thanks to my counsellors help."

"I found an online peer support group that helped me with resources, experiences, and accountability in getting sober. I had tried AA once, but it wasn't for me."

4.6 Quality of life

The WHOQOL-BREF measures a person's quality of life which is defined by the WHO as *"an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns"* (WHO, 2024). The instrument has four domains, and each domain is scored out of 100. Higher scores indicate a better quality of life. The total QoL score is calculated by adding the scores for each domain together and dividing by the number of domains (4). Table 12 presents the results for QoL domains divided into people who have been in treatment and those who have not been in treatment. Interestingly, people who have spent time in treatment have slightly higher QoL scores across all four domains, however none of the differences were statistically significant.

Table 12: Quality of Life presented by people who have attended treatment services and those who have not attended treatment services

n= 194		Yes (m, SD)	No (m, SD)	Total (m, SD)
WHOQOL-BREF				
	Physical Health	63.1, 20.5	59.7, 20.1	59.7, 20.1
	Psychological Health	52.2, 18.4	51.1, 19.7	51.5, 19.2
	Social Relationships	55.7, 19.2	53.1, 23.4	53.7, 22.1
	Environment	58.9, 19.7	58.3, 19.7	58.5, 19.6
	QoL total score	57.5, 15.8	55.6, 17.1	56.2, 16.7

WHO does not provide an optimum cut off score to indicate high and low quality as this can be dependent on the population under investigation. However, Silva, et, al. (2014), suggests a cutoff value of 60 as the optimal point for assessing perceived quality of life and satisfaction with health. Table 12 shows that the average score for all four domains and the total score were below 60. However, the large standard deviation (SD) suggests a wide distribution within the data. Therefore, using, a cutoff value of 60, participants were divided into two groups, greater than or equal to 60 and less than 60, it was shown that 51% (n= 99) of participants had a poor quality of life. There was no statistical difference in QoL scores between people who have been in substance use treatment and those who have not ($p = .724$).

4.7 Engaging with support services and service user experiences

The quantitative survey also asked participants to answer two questions about engaging with drug and alcohol support services. One question asked participants: *“Do you find it difficult to engage with any aspect of a support service or drug treatment programme?”*

A total of 170 respondents provided some form of comment to the question however many of the comments were single word comments such as “yes” and “no”, or not applicable. Content analysis was used to analyse the data and group the comments into Themes. The main themes are presented in Figure 5 below.

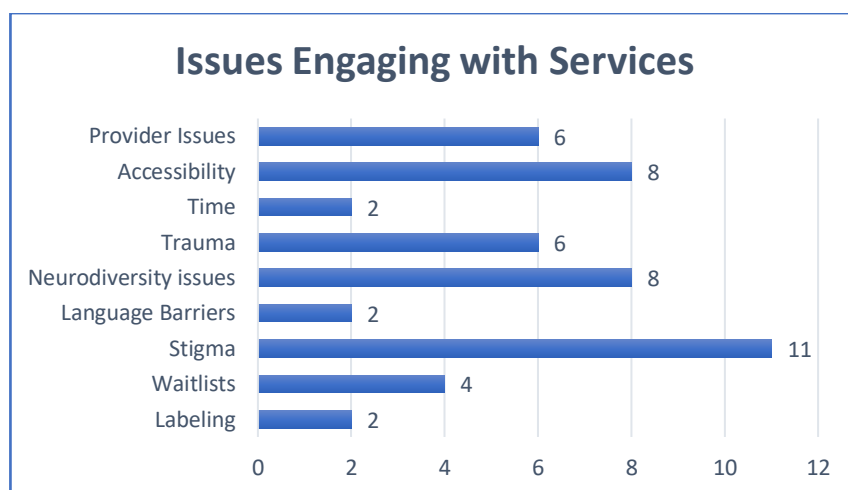


Figure 5: Issues engaging with services.

Accessing services or specific services and waiting lists was challenging for a number of people with 14 comments provided. For people struggling with trauma, accessing services provided different more psychological challenges. Stigma by some service provider staff was also found among the main themes to emerge from the data. A selection of responses from the 63 people in treatment is provided below. The full list of comments and themes is provided in Appendix 4.

“I was lucky in that I got treated near me but only because I knew someone, if not I might have had to go to Dublin City.”

“Yes, I find it hard to express how I feel. When I am asked questions, I find it hard to answer.”

“My worker is easy to talk to. I enjoy the one to ones. They really help.”

Some other comments revolved around, understanding, and working with service providers through the themes; language barriers, labelling, time constraints for people working full time, and neurodiversity.

“The most difficult part obviously is the first time going that’s the part I found extremely difficult, facing it, but I’ve had a very positive experience throughout the course of engaging in treatment.”

“Yes, I don't know if they'll be accepting of my gender or understand neurodiversity”.

“In groups I don’t like to talk if I do I feel stupid.”

4.8 Service user's comments on potential improvements

A second question asked respondents: *“What do you think the Drugs/Chems Service or Project could do to make it easier for you to engage with the service or programme?”*

A total of 176 participants provided an answer to this question. As per the previous question discussed above, content analysis was used to group the comments into Themes, and a summary of the themes are presented in Figure 6 below.

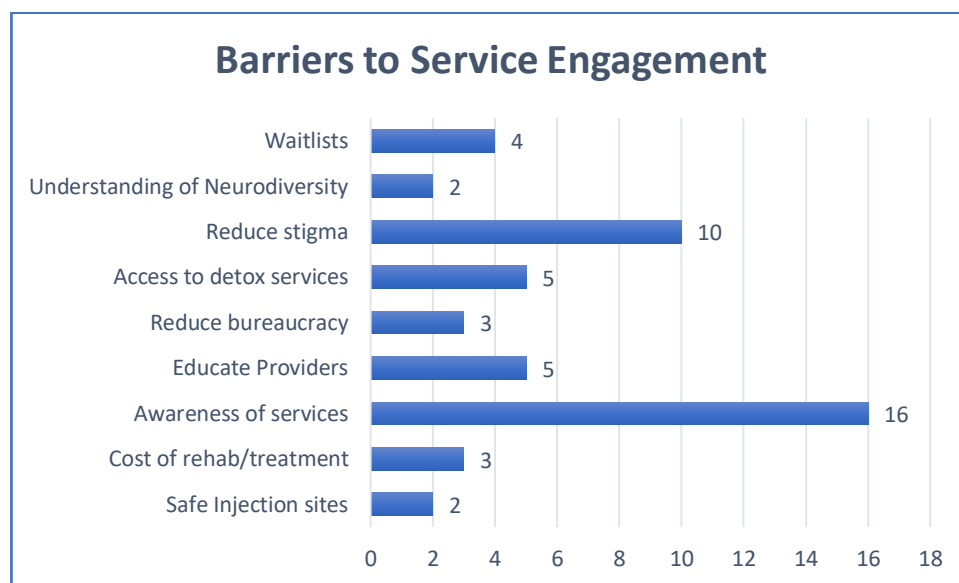


Figure 6: Barriers to Service Engagement.

As per question one above awareness of services, information and waiting lists emerged among the main topics from participants comments. A selection of responses from the 63 people in treatment is provided below. A full list of comments and themes is provided in appendix 5.

“For a lot of them, not making it a pre-condition that you are detoxed before being admitted”.

“I found it to be extremely helpful, being able to speak with someone who had no background information about me, and no prejudged thoughts felt comforting.”

“I got fast tracked because I knew someone, at the time of had went through normal procedure it could have took up to 3 months which is like 1 year when you're desperate.”

“I think it's brilliant it helps so many be and also the families of people in addiction.”

“More access at community level.”

“Just more information of what services are available for gay men who engage in chemsex, I only discovered the services during my 3-month prep check questionnaire.”

Stigma again surfaced as a key theme from people’s comments, suggesting that it is both an enabler and barrier among people in treatment and seeking treatment. Some people not in current treatment reported very positive past experiences, however, for others the experience was the opposite.

“I was very happy with all services it offered. Felt never judged and always encouraged to take self-responsibility. Had any support I need to get my life back again.”

“I find the guilt approach of putting all blame for a person’s addiction and actions on themselves solely is a hard approach to get when neurodivergent as your understanding and can be easily led down the wrong path with social interaction difficulties.”

“Not have you waiting so long to get your phy in the clinic, not have people looking down on you.”

Some other comments called for more support for people on methadone treatment,

“Methadone maintenance needs to be PART of treatment and should include other holistic add-ons such as counselling etc.”

“More support, don't just medicate us.”

One person provided a short account of an anomaly facing people addicted to substances when caught up in the criminal justice system, a system that appears to focus on the type of substance and not the broader needs of people with addition problems.

“I had an amphetamine addiction. Having been arrested, the court stipulated I attend a drug treatment course & provide a urine sample once per week. They didn't care how much alcohol was in my system, just no drugs. Still battling with alcoholism as the root causes were never explored.”

4.9 Conclusion

The main findings of the quantitative survey analysis presented above suggest that the majority of the respondents were well educated, were in employment or were otherwise occupied. Although only 29% said they had attended substance treatment in their lives, the free text comments provided by a number of people who never sought help suggested that many of these respondents struggled with substance issues at some point in their lives. A clinical diagnosis of ADHD had been received by 22% of participants, however a further 29% of people screened positive for the condition, suggesting 51% of the study population are at risk of having this neurodevelopmental condition. Furthermore, a significant statistical difference was found between heterosexual people and LGBTQI+ groups for ADHD, with the LGBTQI+ group at a higher risk.

Cannabis and alcohol were the substances with the highest lifetime prevalence and there were significant statistical differences between those who were at risk of having ADHD and problematic cannabis use, however no association was shown between problematic cannabis use and ASD. Finally, the quality of life of the study participants as measured by the WHOQOL-BREF was shown to be below what would be expected to be found in the general population.

Chapter 5: Qualitative interview findings

5.1 Support providers

This chapter will present the findings from the interviews with the service providers and family members qualitative questions discussed in the previous chapter. A number of key themes and subthemes emerged from the interviews and these themes are based on the semi-structured questions asked during the interview. The two overarching themes were the key needs of people with substance use and neurodiversity and the challenges facing service providers and family members. These two main themes are centered around neurodiverse behaviours and self-medication and are based on the lived experiences for the people providing the support (see Figure 7). The two main themes and subthemes are discussed below within the context of neurodiverse behaviours and substance use. Furthermore, the two main themes are not mutually exclusive, for example the key issues for services users also provide challenges for support providers, a concept map providing an overview of finding in provided in Figure 7. Details on the individual themes emerging form the data are discussed in detail below.

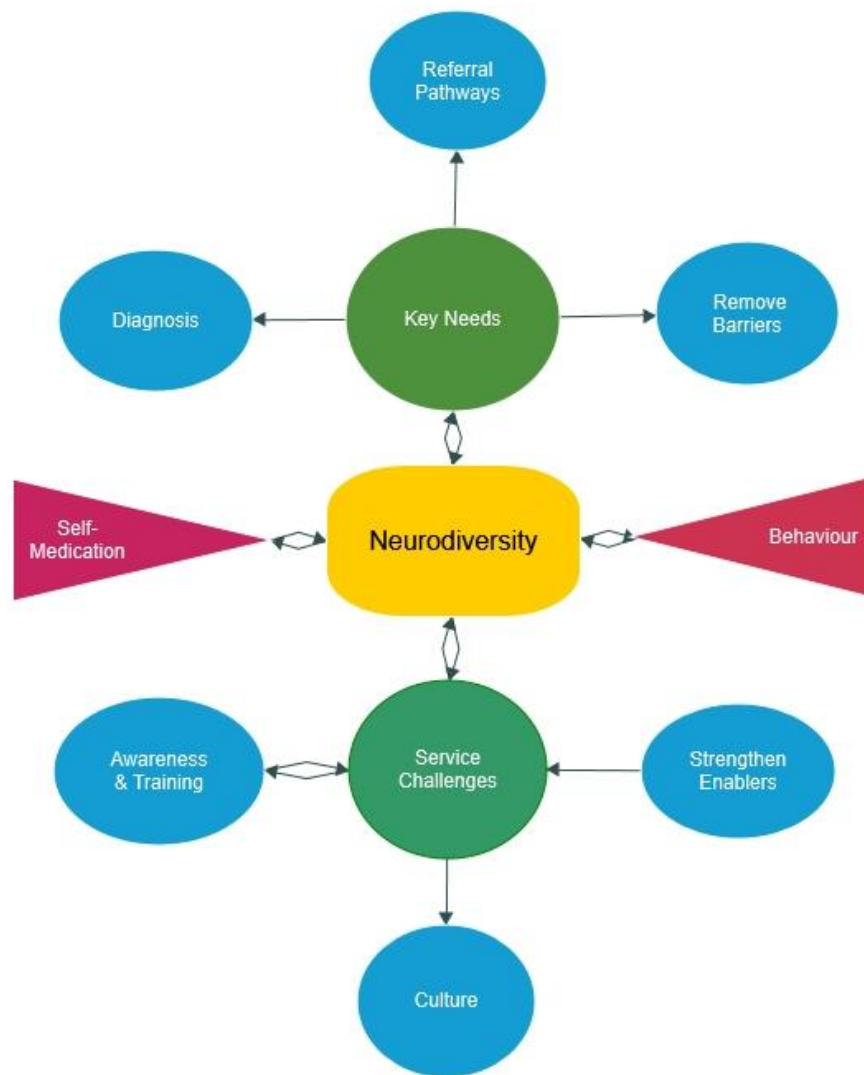


Figure 7: Overall concept map of findings.

Key theme 1: Addressing needs.

Theme 1.1: Understanding the behaviours of people with SUD and ND

This theme was segmented into three subthemes, diagnosis; referral pathways; and removal of barriers. There were 61 references to diagnosis within the data. The majority of responses were from those who possibly have a ND condition and did not have a clinical diagnosis. Furthermore, it was noted that when service users had a clinical diagnosis, it could provide a pathway to ADHD medication and an explanation for their substance use and the way they have felt throughout their life. The quotes below provide an example of these points.

“Some people were diagnosed [with ADHD], but the vast majority aren't, right.” (Participant 5).

"I work with a young guy who's 23 who is undiagnosed, and he's convinced that he has ADHD, and talks about the constant thoughts in his head he's up and down when were in a session together I always make sure I have fidgets, so he fidgets all the time." (Participant 8).

"And there's a colleague that have been diagnosed and prescribed their lives are completely changed. So, it's not, you know, this can be done." (Participant 5).

"I mean the first time I saw him cry was his diagnosis, the day they had diagnosed it by XXXX because somebody finally put something on it like, named it, named why he was the way he was." (Participant 1).

Theme 1.2: The challenge of the journey to diagnosis and beyond

For many people who believe they have ADHD, getting a diagnosis is almost insurmountable without the financial resources for private healthcare. This can be seen in the selection of quotes below.

"The amount of adults now that are kind of thinking do I have ADHD now and if it is then the waiting list is so long and the prices there's a lot of people couldn't pay." (Participant 8).

One family member provided an insight for adults with ADHD who opt for private care.

"He could get a childhood expert that understood ADHD but couldn't get an adult expert that could say OK, you know because children probably at the age of 7 are not self-medicating, adults are." (Participant 1).

The lack of referral pathways for people with ND conditions and substance use was omnipresent throughout participant responses. Moreover, there was a feeling of helplessness from some support workers that the needs of many people attending community drug and alcohol support services went beyond just support and counselling. However, those broader supports were not accessible for the majority of people from the Irish healthcare system.

I am also working with somebody who has mental health issues but there's just nowhere for me to refer him, you know... I think there's a big gap there." (Participant 8).

"No, God no absolutely nothing." (Participant 9).

“No, I don't think there is a clear pathway no, there is kind of like, I looked into it (ADHD) a little bit for him because he's really want to pursue it and I sent him to the GP, and the GP turned him away it's not me that you go to it all.” (Participant 10).

“There is no answer.” (Participant 7).

Theme 1.3: Barriers from childhood to adulthood, from schooling to form filling and families.

The third sub-theme was the awareness of and removal of barriers. For services having a diagnosis can provide a deeper understanding of the most appropriate therapeutic methods to respond to people's needs. However, some barriers were not always obvious, yet they can have a significant impact on the lives of service users. One such barrier was communication. Several participants mentioned that people with ADHD and Autism have different needs when it comes to communication. Autistic people need time to reflect on questions that they are asked so they can provide a considered response. While people with ADHD lack the attention to listen to what is being said. This can often prove challenging for people when attending healthcare facilities and social services. Helping people overcome these challenges is an important aspect of the work of drug and alcohol support services. These barriers are illustrated within the quotes below from barriers with communication on phones, filling in forms and attending appointments.

“They may not be able to communicate with them they feel really uncomfortable trying to communicate with someone on the end of a phone, whether it's the DSP whether it's social welfare, the community welfare officer or whatever, the way they talk to them the way they address them the way they make them feel.” (Participant 2).

“And even some of the language they use in these forms is very difficult to understand. They don't speak in layman's terms, no.” (Participant 3).

“For us to support them ... we end up then having to ring the doctors or ring the consultants and talk to the nurses there and try and find out exactly what they've been told.” (Participant 2).

Another barrier identified within the data is that some of the current needs of people began to emerge in early life, highlighting a lack of support for neurodiverse conditions while in school and lack of awareness of ND among families.

Participant 10 spoke of their experiences working with ND people and relayed a story from a participant who was diagnosed with ADHD as a child but did not receive any medication or support and who is now attending drug and alcohol support services.

“You ask (the service user) did you ever have any kind of assessments when you're in school and they would say I don't know I can't remember things, I was always getting in trouble, and I was always mad I could never sit still. One person I can think of said oh they were trying to give me medication when I was a child, but my father wouldn't allow me to take the medication. Did they have an awareness not really to be honest a little bit, but they don't really connect to it at all.” (Participant 10).

Medication for ADHD and self-medication provided some differing perspectives. For some a diagnosis provided the opportunity for prescription medications which remove the need to self-medicate. While for others' problems, such as stigma and labelling can create barriers against pharmacological interventions. The quotes below illustrate the challenges with medications and with a person feeling this as a stigma.

“I have met a lot of people over the years who have been diagnosed and have been medicated, and they're illicit, chem use and drug use ceased” “I worked with one individual a number of years ago, almost 25-year history of using stimulants, from amphetamines to coke to crack cocaine to methamphetamine. And when he was diagnosed with a neurodivergent condition and medicated from a case of working three or four separate jobs.... he's now working a very warm, very relaxing job and his life has completely turned around.” (Participant 5).

“No, he won't attend any of the services and they discharged him from the Mater CAMS at 16...I remember him saying to me a couple of times...I don't like to be labelled you know. He doesn't believe he has a disability basically yeah.” (Participant 8).

“I have a client who talked about his mother not allowing him to go on any other medication and not go back because of the stigma oh yeah and he said look back on that and thought you know she should have let me.” (Participant 5).

Key theme 2: Service Challenges

This theme was segmented into three subthemes, awareness and training, culture and strengthening enablers.

Theme 2.1 Some awareness but no training

Awareness and training provided 110 references and was the most referenced theme in the dataset. The majority of services had an awareness of ND conditions. However not all services used the term 'neurodiversity'. Many people spoke about ND behaviours as the main identifying feature of ADHD and ASD. While services were aware of ADHD and ASD, managing the needs of service users with SUD and ND was experiential and specific to the particular service. There was little evidence of any formal training programs being available in the majority of services. This can be seen in the selection of quotes below.

"I'll be honest it's only in the last few years that your kind of nearly finding the labels and you know for years I suppose we weren't fully aware of it we just knew there were certain things going on."

(Participant 2).

"Picked up momentum, umbrella term, brain works differently as a result of biology and not trauma. We work with the behaviours, and it is hard to move away from medical models and work towards biopsychosocial models." (Participant 9).

"Has only come up recently, new word to me." (Participant 9).

"I work with trauma as opposed to neurodiverse behaviour; we have a trauma response. It can be challenging because some of the materials in our training/programme are psychosocial based."

(Participant 9).

When asked if they had any formal training on ND, most people said no, and what they know of it was learned on the job. Interestingly some participants also mentioned that ND was not part of their formal counselling or addiction studies. Furthermore, the lack of training has resulted in challenges for many people, as can be seen in the quotes below.

"Well, we don't have a specific training program, it's more in-house training and awareness and a lot of learning through staff discussion." (Participant 4).

“ADHD, no, not really, you know we would cover it a little bit like, I'm just after finishing a course a counselling psychotherapy but they don't really go into it. Like even when I did addiction studies there was nothing like this ever came up...that's kind of on the job just looking at the needs of the person when they present.” (Participant 8).

“You know and to try and I suppose recognise the difference say between a disability or any kind of deep trauma and someone presenting that may be on spectrum. It's learning on the job, its learning from other people's experience.” (Participant 2).

“The whole training issue is a really big issue. Because we need to know what we're offering is the best thing that we can offer to people because they deserve that so if I'm just sort of like really hoping that this will fit and that may fit because of my experience.” (Participant 5).

I have kids over the years that might punch a hole in the wall, but I'd have youth workers more afraid of the autistic child. I don't have training on that and getting them to connect... but I have seen it in services where people are petrified to work with a person because of the idea of what this stereotype is.” (Participant 7).

Theme 2.2 Service culture and potential capability of services to change and meet needs.

Service culture emerged as an important theme for the community drug and alcohol support services. All the support workers interviewed spoke about responding to the specific needs of the person as they presented, and treatment plans were person-centered developed specifically with and for the service user. Furthermore, services spoke of being trauma informed and the use of sanctions against people who may have stepped out of line were not used.

“So, we kind of developed a different plan for him in terms of one to one, dropping in on Thursday, just like the one-hour group where that would keep his focus a bit more and is a bit more interactive. So it was that was like the better plan for him in terms of his behaviours. So, you do try and cater to everybody's needs as well, but there's also a huge amount of trauma with this, with this particular person as well.” (Participant 11).

“I said we are Open Access you have little rules in there one is, no drug dealing the other is no drug taking, guys that drink will come in and they if they have bottles with them, we don't even have to ask them there anymore they're behind the desk they leave them there.” (Participant 2).

The drugs are the symptom let's look at what the cause is the trauma is it neurodiversity is it autism you know. How, can we support this person so rather than looking at addiction as a 'one hat fits all' let's look at all the different contributing factors and then we might give these people a fighting chance of having some quality of life because at the moment they have none.” (Participant 6).

*“That particularly people with ADHD or autism, what they need is a place that they feel safe.”
(Participant 3).*

Theme 2.3 Strengthening enablers and the capacity of services to adapt to meet needs.

When asked whether people with ND require a specialist service, most people said that with the right resources in place, the current community drug and alcohol service are more than capable of meeting the needs of people. Furthermore, the services are already based in the community and a bond of trust has already been established with their service users. This is illustrated in the quotes below.

“So, the service should be provided (at the location) where they're at and not directing them someplace else that they probably won't go.” (Participant 3).

“So, everybody then should be trained up on the needs of everybody, yeah and it's not too far-fetched to say that, but I mean we're working with people, so you need to be able to work with what comes to the door.” (Participant 7).

5.2 A presentation of three powerful vignettes

In addition to the qualitative analysis and findings above, three vignettes are presented in this section to demonstrate the powerful stories of service users and service providers.

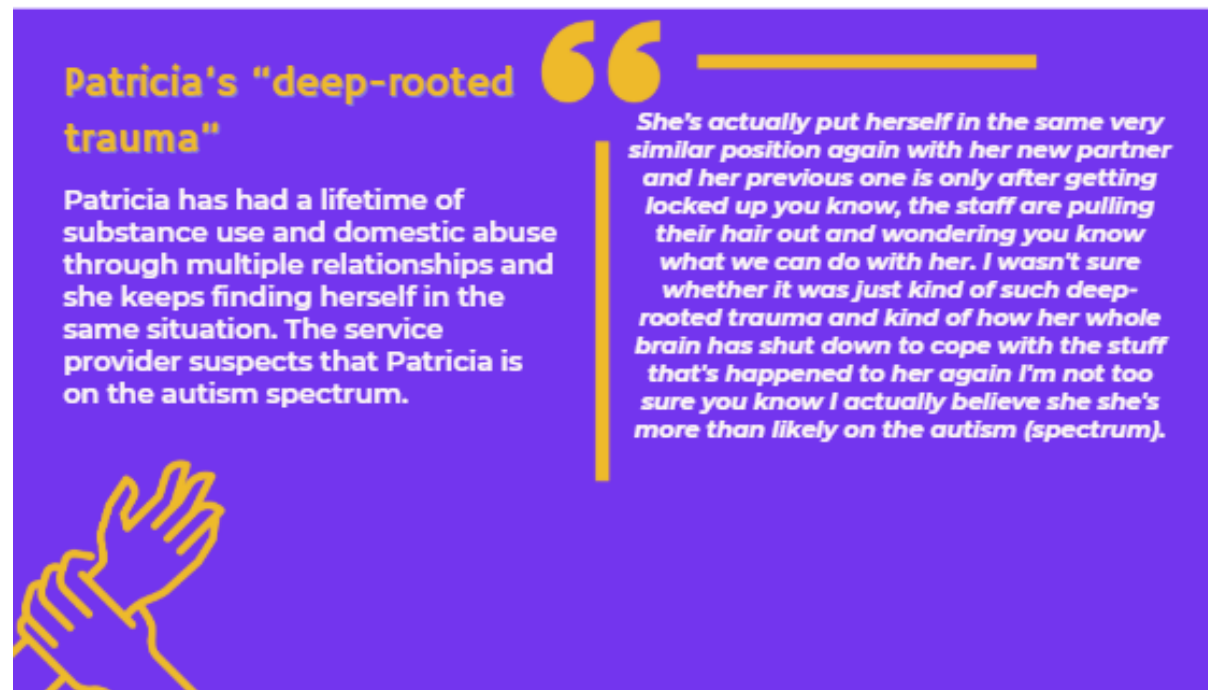


Figure 8: Patricia's Deep-rooted Trauma



Figure 9: The "Bold" Children

A cup of tea...

For the service providers, understanding the behaviours and learning how to work with people with neurodiverse conditions can come out in very simple ways, like making someone a cup of tea.



“

Sometimes it could be understanding the behaviours you know they will ask for a cup of tea they take the cup of tea they leave it down they go outside and then like come back 5 minutes later and they're be looking for their cup of tea and the staff think they're gone and they take away the cup of tea and they get really annoyed because someone is taking away the cup of tea, and the staff will say I'll make another one now but that's not the point that was their tea, they left that there and you know all that. So the (service provider) staff, once they get to know them once they realize this will now leave the tea there, there's one or two people who come in and I could be stone cold by the time they come back and they might be just sitting outside they won't be going outside to smoke or anything they could be just feel overwhelmed by the people that's in the drop in, the noise could be too loud you get a lot of lads in there at one time who are in a good place for them they can be quite loud and it could be just I don't want to be here I sit outside when it's quiet and when it is quieting down they'll come back in but then they still expect their tea and their sandwiches because they don't want to eat it outside.

Figure 10: A Cup of Tea...

5.3 Chapter summary

The awareness and diagnosis of ADHD or ASD provided the highest number of comments. Most participants suggested the prevalence of these conditions was much higher than the of number people who reported having a clinical diagnosis. The majority of service providers did not have any formal education or training in neurodiversity. Managing the needs of people who attend their services has been learned on the job using a trial-and-error approach. Some providers said that people have left their service and not returned. Communicating with and managing people with neurodiverse conditions provided a major challenge for service provider staff, particularly when providing services for people with ASD. For some service users it can take years to find an effective treatment programme based on their individual needs. Finally, the lack of a referral pathway through the Irish health system for adults who want to receive a formal diagnosis ADHD or ASD was a barrier. Providing appropriate support for those with mental health and drug and alcohol problems was raised by almost all the providers as a major issue for their service.

Chapter 6: Conclusion and recommendations

6.1 Introduction to the international consensus statements and their recommendations on diagnosis and treatment

Before discussing this current study's conclusions and recommendations it is important to be aware of the literature and the international consensus statements on approaches to management and treatment. The World Federation of ADHD have provided over 200 evidence-based conclusions about the disorder. In their opening statements they reflect the findings observed within the current study when they state that misconceptions about ADHD stigmatize affected people, reduce credibility of providers, and prevent or delay treatment (Farone et al 2024). Within the 208 consensus statements provided in the World Federation of ADHD report three key statements on substance use disorders and ADHD were identified and these are statements numbers 128, 129 and 130. Which state: Those with ADHD were 50 % more likely to develop a drug or alcohol use disorder than those without ADHD; A meta-analysis found that ADHD was associated with a more than twofold greater odds of alcohol-use disorders and tobacco use, and finally a Swedish study of over half a million people found a more than threefold association between ADHD and subsequent drug use disorders after adjusting for gender and parental education (Farone et al 2024, p. 801).

The additional challenge of adolescents with a substance use disorder and ADHD has been explored by Özgen and colleagues (2020) who have produced an international consensus statement for the screening, diagnosis, and treatment of adolescents with concurrent attention-deficit/hyperactivity disorder and substance use disorder. These authors recognised that ADHD and SUD frequently co-occur and that this complicates diagnosis and treatment and that this cooccurrence is associated with poor treatment outcomes. Research is scarce and the available evidence is generally not sufficient to justify robust treatment recommendations. Addressing this gap they have produced a consensus statement addressing this challenge. In summarizing their key finding, the consensus group provided the following recommendations:

There was consensus that:

- Routine screening is recommended for ADHD in adolescent patients in substance abuse treatment and for SUD in adolescent patients with ADHD in mental healthcare settings.
- Long-acting stimulants are recommended as the first line treatment of ADHD in adolescents with concurrent ADHD and SUD, and pharmacotherapy should preferably be embedded in psychosocial treatment.

There was discordance on:

- The requirement of abstinence before starting pharmacological treatment in adolescents with ADHD and concurrent SUD. In contrast to the majority, some experts required full abstinence before starting any pharmacological treatment, some were against the use of stimulants in the treatment of these patients (independent of abstinence), while some were against the alternative use of bupropion.
- In conclusion it was agreed that the consensus statement could be used by patients and clinicians in a shared decision-making process to select the approach that met the individual needs of each person.

6.2 Conclusions and key recommendations from the present study

To enable the practical implementation of recommendations within services already dealing with many demand and resource constraints, four key and overarching recommendations are provided.

6.2.1 A gender, sexuality, and drug of choice lens to ADHD awareness

From the systematic review findings, it was observed for the first time, that the highest prevalence rates of ADHD were to be found amongst women who used benzodiazepines. While overall rates of ADHD among people who use substances were found to 21%, the rate amongst these women was 39.5%. From the detailed findings we saw that males who used alcohol, cocaine and cannabis had higher rates than women who used these substances. Among males the highest rates were observed amongst those who use alcohol.

Women who used benzodiazepines and opiates had higher rates than men who also used these substances. It was very interesting to also find that how sexuality within the quantitative survey was of importance, with those who were LGBTQI+ presenting with significantly higher rates of ADHD than those who described themselves as heterosexual. Substances of choice were also seen to be significant when estimating rates of potential ADHD within the quantitative survey.

Given these concordant findings on gender, sexuality, and drug of choice it is clear that it is important that when addressing ADHD and substance use within all services, a gender and sexuality lens is essential while also being cognisant of the high rates among men who use alcohol and women who use benzodiazepines. These factors along with one's description of one's sexuality could be viewed as triggers for staff to consider the possibility of co-occurring, potentially undiagnosed ADHD.

In summary, it is recommended that questioning for neurodiversity becomes part of the comprehensive assessment process in all settings and services and across the lifespan from early childhood services to specialised supports.

6.2.2 Modification to service process and practice to ensure culturally informed communication and non-stigmatizing, strengths-based service

Given the reduced quality of life observed within the quantitative findings and the trauma experienced by adults during their journeys through school, services, and work relationships. Challenges first experienced in school with sitting still or doing homework followed into adulthood and could be seen in difficulties with making phone calls, filling in forms and attending to appointments. Within this study we have seen that stigma can arise. Services once they recognised this were able to put processes in place to work with individuals and their strengths. Culturally informed strengths-based approaches have been shown to be effective in addressing substance use. Strengths-based approaches encompass a person's story, their culture and their assets or strengths. What is novel in this approach is that the outcome measurement is a collaborative choice based on the needs and resources of the person rather than on any organizational need or decision (Comiskey, 2024).

It is therefore recommended that the current trauma informed approaches are expanded to include approaches suitable for those with neurodiversity. This will include modifications to how service processes interact with those with ND and how individuals service providers work with people with ND.

Ezell and colleagues (2023) have provided a systematic literature review of strengths-based approaches to drug use management and treatment. They identified and characterised existing paradigms and approaches. Importantly they found that these separate bodies of literature demonstrated little connectivity which they then addressed through the development of an Integrated Strengths-Based Engagement Framework (ISBEF).

Comiskey (2024) notes that with strengths-based case management the philosophy is one of generating client self-efficacy by structuring client engagement around their strengths, skills, resources, and aspirations both inside and importantly, outside of the context of their drug use. The person works towards quality-of-life improvements thus addressing one of the key findings within this report.

In summary, it is recommended that neurodiverse informed approach and practice be established in line with and building upon trauma informed approach.

6.2.3 Expanding existing training to include a whole service approach to immediate and long-term sustainable neurodiversity education.

To enable recommendations one and two to be realised there is a pressing need for immediate and for sustainable training and education. The need for this immediate short term and longer-term training was clearly articulated within the qualitative findings. Within services, providers have had to work on a trial-and-error basis to see what works. Staff with advanced training and education spoke of never having received any formal training in dealing with neurodiversity.

The findings of this report have shown that community drug services have been able to respond to the presentation of individuals with complex needs including undiagnosed neurodiverse conditions. In summary, it is recommended that in the first instance, to support staff immediate training be provided to those in existing services, this includes staff at all levels in order to provide a 'whole service' approach. It is also recommended that this be widened to include family members. It is further recommended that commitment be sought at a wider policy and practice level to develop potentially sustainable training for families, educators, and wider service providers. It is recommended that a module be provided in all relevant educational programmes in health and social care.

6.2.4 Accessing expertise and developing integrated care pathways from diagnosis to treatment to enhanced quality of life

Throughout the comments received from people who use substances and who engaged with our quantitative survey it was clear that journeys to diagnosis, treatment and ultimately to an understanding of oneself by oneself and one's family was tortuous. Service providers also spoke of frustrations and a lack of places to turn to for advice and for treatment for those that needed extra help beyond what even a ND informed service could offer. There was the ongoing challenge of needing to do and know more within services and the need for additional external expert services and appropriate care pathways. While it may be beyond the scope of the services this study engaged with, an important recommendation arising from this study is the need for additional care pathways to relevant psychological and psychiatric expertise. While the need for improved diagnostic services is very important this recommendation goes beyond this basic need. Rather there is a need for access to expertise when service cannot cope. This recommendation brings us back to the consensus statements.

In summary, the findings of this study reflect the need and the importance of the HSE's model of care for providing appropriate assessment, screening, and interventions for people with ADHD, and we recommend that this model be rolled out with expediency and coordinated in conjunction with addiction services to ensure robust referral pathways.

6.2.5 Disseminating the Irish evidence and the international consensus statements to ensure human rights and access to evidence-based approaches

Given the findings from the international systematic review on high rates of ADHD prevalence in some groups, the suffering identified by individuals and their families and the challenges faced by services providers and staff on a daily basis, there is an ethical onus on the Department of Health and professional accreditation bodies to disseminate the latest international consensus statements and provide continuing professional development on the diagnosis and current stimulant and other treatments for ADHD among people who use substances.

From a policy, service and practice level it is clear that neurodiversity and in particular ADHD is of significant concern within services who engage directly with people who use substances, we can confirm that approximately 1 in 5 people who use substances if assessed will have symptoms of ADHD. Furthermore, this rate can increase significantly given varying substances, with those using benzodiazepines exhibiting rates of more than 1 in 3. Dissemination of best practice is urgently required if healthcare practitioners and related services are to uphold human rights-based approaches for both people who use services and people who provide them.

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Appendices

Appendix 1.

Section One: Demographic Information	
2. What is your age in years? 	9. What is the highest level of formal education you have completed? ☐ No formal education ☐ Primary education ☐ Lower secondary (preparation for Junior Cert. or equivalent) ☐ Upper secondary (preparation for Leaving Cert. or equivalent) ☐ Third level
3. What is your birth gender? ☐ Female ☐ Male ☐ Prefer not to say ☐ Other (please specify) 	10. What is your current relationship status? ☐ Single ☐ In a relationship ☐ Engaged ☐ Married/Civic Union ☐ Other (please specify)
4. What is your sexual orientation ? ☐ Heterosexual ☐ Lesbian ☐ Gay ☐ Bisexual ☐ Transsexual ☐ Queer ☐ Other (please specify) 	11. How are you employed at the moment? ☐ Not Employed ☐ Full Time ☐ Part Time ☐ Student ☐ Home Duties ☐ CE Scheme ☐ Retired
5. What is your country of birth? 	12. Are you currently on disability benefit? ☐ Yes ☐ No
6. Main Language Spoken? 	13. Have you ever attended any type of Drug/Chems or Alcohol treatment? ☐ Yes ☐ No
7. What county in Ireland do you currently live in? 	
8. At what age did you finish your formal education? 	

*** 14. Are you currently attending any type of Drug/Chems or alcohol treatment service? Please select the options that apply to you below**

☐ Alcohol Treatment Service
☐ Drug/Chems Treatment Service
☐ CE Drug Rehab Project
☐ Counselling service
☐ Peer support group
☐ Homelessness service
☐ Not attending any drug or alcohol treatment service
☐ Other (please expand/explain)

If you have engaged with health or support services for alcohol or drug use, please tell us about your experiences

15. What do you think the Drugs/Chems Service or Project could do to make it easier for you to engage with the service or programme?

16. Do you find it difficult to engage with any aspect of a support service or drug treatment programme? Please expand/explain

17. What are your preferred Drugs/Chems substances of choice? Please rank using numbers in order of your preferences, for example 1,2,3,...

Street opiates (Heroin, Opium, ect)

Prescription Opiates (Methadone, Codine, Fentanyl, Oxycodone, Oxycontin, ect)

Cocaine (coke, crack, ect)

Methamphetamine (Crystal, Crystal Meth, Tina, Meth)

GHB/GBL (Gina, liquid ecstasy)

Methylenedioxymethamphetamine (MDMA)

Ketamine

Mephedrone

Poppers

Viagra

Nitrous Oxide

Marijuana, (cannabis, weed, hash, ect)

Sedatives, (Valium, Xanax, tranquilisers, benzos, ect.)

Alcohol

18. If your preferred Drug/Chems substance of choice is not listed above please add it in the box below

*** 19. In the past 3 months, which of these substances have you used?**

Never used in my life	Not in the past three months	Once or twice	Monthly	Weekly	Daily or almost everyday
Cannabis (marijuana, pot, weed grass, hash, etc)					
☐	☐	☐	☐	☐	☐
Cocaine (coke, crack, etc)					
☐	☐	☐	☐	☐	☐
Street Opioids (heroin, opium, etc)					
☐	☐	☐	☐	☐	☐
Prescription opiates, just for the feeling, more than prescribed, or that were not prescribed for you(Codeine, Fentanyl, Oxycodone, methadone, etc)					
☐	☐	☐	☐	☐	☐
Sedatives, just for the feeling, more than prescribed, or that were not prescribed for you (Valium, Xanax, tranquilisers, benzos, etc)					
☐	☐	☐	☐	☐	☐
Methamphetamine (Crystal, Crystal Meth, Tina, Meth)					
☐	☐	☐	☐	☐	☐
GHB/GBL (Gina, liquid ecstasy)					
☐	☐	☐	☐	☐	☐
Prescription stimulants, just for the feeling, more than prescribed, or that were not prescribed for you. (Ritalin, Adderall, Diet pills, etc)					
☐	☐	☐	☐	☐	☐
Other (please specify) 					

The following questionnaire is a brief three question alcohol screening instrument.

One standard drink is equal to:
A small glass of wine; One pub measure of spirits; One glass of standard strenght beer

*** 20. How often do you have a drink containing alcohol?**

☐ Never
☐ Monthly or less
☐ 2 to 4 times a month
☐ 2 to 3 times a week
☐ 4 or more times a week

*** 21. How many standard drinks containing alcohol do you have on a typical day?**

☐ 0
☐ 1 to 2
☐ 3 to 4
☐ 5 to 6
☐ 7 to 8
☐ 9 - 10 or more

*** 22. How often do you have six or more standard drinks on one occasion?**

☐ Daily or almost daily
☐ Weekly
☐ Monthly
☐ Less than monthly
☐ Never

*** 23. Would you consider yourself dependent on Alcohol or your Drug/Chems substance of choice?**

☐ Yes
☐ No
☐ Other (please specify)

Section One: Questions on Dyslexia, Epilepsy, ADHD/ADD & Autism

Attention Deficit & Hyperactivity Disorder (ADHD) is characterized by a persistent pattern of inattention and hyperactivity-impulsivity, while Attention Deficit Disorder (ADD) is associated with a persistent pattern of inattention. Both of these conditions can have a direct negative impact on academic, occupational, or social functioning.

24. Do you have your own GP that you can attend for medical matters?

☐ Yes
☐ No

25. Have you ever been clinically diagnosed with Dyslexia?

☐ Yes
☐ No
Don't know/Other (please specify)

26. Have you ever been clinically diagnosed with Epilepsy? ☐ Yes ☐ No Don't know/ Other (please specify) * 27. Have you ever been clinically diagnosed with Attention Deficit & Hyperactivity Disorder ADHD/ADD by a medical professional ☐ Yes ☐ No ☐ Dont know/ Other (please specify) 28. If you have been diagnosed with ADHD/ADD are you on any prescribed medication ☐ Yes ☐ No ☐ Not Applicable If Yes what type of medication have you been prescribed 29. Are you self-medicating ADD/ADHD symptoms ☐ Yes ☐ No ☐ If yes, please explain/specify 30. Do you take any medication to help you sleep? Please specify ☐ Yes ☐ No If yes what medication are you taking	31. If you have never been diagnosed with ADHD/ADD, did you ever think you could have ADHD/ADD ☐ Yes, I think I could have ADHD or ADD ☐ No If yes, please tell us why you think you could have ADHD/ADD ADHD Questionnaire Please select one option for each question below * 32. Please select one option for each question below <table style="width: 100%; text-align: center;"> <tr> <th style="width: 20%;">Never</th> <th style="width: 20%;">Rarely</th> <th style="width: 20%;">Sometimes</th> <th style="width: 20%;">Often</th> <th style="width: 20%;">Very Often</th> </tr> </table> How often do you have difficulty concentrating on what people are saying to you even when they are speaking to you directly? ☐ ☐ ☐ ☐ ☐ How often do you leave your seat in a meeting or other situations in which you are expected to remain seated? ☐ ☐ ☐ ☐ ☐ How often do you have difficulty unwinding and relaxing when you have time to yourself? ☐ ☐ ☐ ☐ ☐ When you are in a conversation, how often do you find yourself finishing the sentences of the people you are talking to before they can finish them themselves? ☐ ☐ ☐ ☐ ☐ How often do you put things off until the last minute? ☐ ☐ ☐ ☐ ☐ How often do you depend on others to keep your life in order and attend to details? ☐ ☐ ☐ ☐ ☐ Demographic Questions on Autism * 33. Have you ever been clinically diagnosed with Autism by a medical professional ☐ Yes ☐ No ☐ Dont know/ Other (please specify)	Never	Rarely	Sometimes	Often	Very Often
Never	Rarely	Sometimes	Often	Very Often		
34. If you were not clinically diagnosed with Autism, did you ever think you could have Autism ☐ Yes ☐ No If you answered Yes, please tell us why think you could have Autism Autism Spectrum Quotient Autism spectrum disorder (ASD) is a neurological and developmental disorder that affects how people interact with others, communicate, learn, and often includes restricted interests and repetitive behavior. * 35. Please select one option per each question below <table style="width: 100%; text-align: center;"> <tr> <th style="width: 25%;">Definitely Agree</th> <th style="width: 25%;">Slightly Agree</th> <th style="width: 25%;">Slightly Disagree</th> <th style="width: 25%;">Definitely Disagree</th> </tr> </table> I often notice small noises when others do not ☐ ☐ ☐ ☐ I usually concentrate more on the whole picture, rather than the small details ☐ ☐ ☐ ☐ I find it easy to do more than one thing at once ☐ ☐ ☐ ☐ If there is an interruption, I can switch back to what I was doing very quickly ☐ ☐ ☐ ☐ I find it easy to 'read between the lines' when someone is talking to me ☐ ☐ ☐ ☐ I know how to tell if someone listening to me is getting bored ☐ ☐ ☐ ☐ When I am reading a story I find it difficult to work out the character's intentions ☐ ☐ ☐ ☐ I like to collect information about categories of things (for example, types of cars, types of birds, types of trains, types of plant etc) ☐ ☐ ☐ ☐ I find it easy to work out what someone is thinking or feeling just by looking at their face ☐ ☐ ☐ ☐ I find it difficult to work out someone's intentions ☐ ☐ ☐ ☐	Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree	Thank you for completing Section One of the Survey 36. Do you want to End the survey or would you like to tell us more about your life and wellbeing ☐ I would like to End the survey ☐ I would like to complete the whole survey Section Two: Life, Health & Wellbeing 37. Do you have any children younger than 18 years (Parent/Guardian)? ☐ Yes ☐ No If you answered yes, how many children under 18 do you have. 38. If you answered yes, how many children under 18 live with you 39. Do you have any children over 18 years (Parent/Guardian)? ☐ Yes ☐ No 40. If you have children over 18 how many live with you? 41. Overall how would you describe your relationship with your children? ☐ No children ☐ Very Good ☐ Good ☐ Okay-Alright ☐ Poor ☐ Very Poor The following questions ask how you feel about your quality of life, health and other areas of your life. Please select the answer that is most appropriate for you. Please think about your life over the last four weeks and keep in mind your standards, hopes, pleasures and concerns.	
Definitely Agree	Slightly Agree	Slightly Disagree	Definitely Disagree			

* 42. How would you rate your quality of life? ☐ Very poor ☐ Poor ☐ Neither good nor bad ☐ Good ☐ Very good * 43. How satisfied are you with your health? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied The following questions ask about how much you have experienced certain things in the last four weeks * 44. To what extent do you feel that physical pain prevents you from doing what you need to do? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ An extreme amount 45. How much do you need medication treatment to function in your life? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ An extreme amount * 46. How much do you enjoy life? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ An extreme amount	47. To what extent do you feel you life is meaningful? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ An extreme amount * 48. How well are you able to concentrate? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ Extremely * 49. How safe do you feel in your daily life? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ Extremely * 50. How healthy is your physical enviornment? ☐ Not at all ☐ A little ☐ A moderate amount ☐ Very much ☐ Extremely * 51. Do you have enough energy for everyday life? ☐ Not at all ☐ A little ☐ Moderately ☐ Mostly ☐ Completely
* 52. Are you able to accept your bodily appearance? ☐ Not at all ☐ A little ☐ Moderately ☐ Mostly ☐ Completely * 53. Have you have enough money to meet your needs? ☐ Not at all ☐ A little ☐ Moderately ☐ Mostly ☐ Completely * 54. How available to you is the information that you need in your day-to-day life? ☐ Not at all ☐ A little ☐ Moderately ☐ Mostly ☐ Completely * 55. To what extent do you have the opportunity for leisure activities? ☐ Not at all ☐ A little ☐ Moderately ☐ Mostly ☐ Completely * 56. How well are you able to get around? ☐ Very poor ☐ Poor ☐ Neither poor nor good ☐ Good ☐ Very good	* 57. How satisfied are you with your sleep? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 58. How satisfied are you with your ability to perform your daily living activities? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 59. How satisfied are you with your capacity to work? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 60. How satisfied are you with yourself? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 61. How satisfied are you with your personal relationships? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied

* 62. How satisfied are you with your sex life? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 63. How satisfied are you with the support you get from friends? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 64. How satisfied are you with the condition of your living place? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 65. How satisfied are you with your access to health services? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied * 66. How satisfied are you with your access to transport? ☐ Very dissatisfied ☐ Dissatisfied ☐ Neither satisfied nor dissatisfied ☐ Satisfied ☐ Very satisfied	* 67. How often do you have negative feelings, such as blue mood, despair, anxiety, depression? ☐ Never ☐ Seldom ☐ Quite often ☐ Very often ☐ Always 68. Can you please take a moment to add in and share any final comments or feedback for us. Thank you Debrief Sheet Thank you for taking the time to participate in this study. If any issues emerged as a result of completing this questionnaire, please contact your local GP, counsellor, or healthcare professional. Below are contact details of support groups which may also be of help. ADHD Ireland: Brunswick St N, Dublin, D07 RHA8: Phone: (01) 874 8349. https://adhdireland.ie/ Irish Society for Autism: Helpline: 01 481 9311. https://autism.ie/ Alcoholics Anonymous: Leinster area: Phone: 01-8527000. www.alcoholicsanonymous.ie/ Email: gso@alcoholicsanonymous.ie Narcotics Anonymous: Phone: 01-6728000. Email: info@na-ireland.org. www.na-ireland.org Mental Health Ireland: https://www.mentalhealthireland.ie/ AWARE: Phone: 01 661 7211. https://www.aware.ie/ The Samaritans 24-hour helpline: 116123. https://www.samaritans.org Turn2Me.org Grow; Mental Health support and Recovery, Online one to one or group counselling. Phone: 1890 474 474. www.grow.ie/ One in Four: Phone: 01 66 24070. Email: info@oneinfour.ie. www.oneinfour.ie/
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Appendix 2.

Qualitative Questions Schedule.

1. In your opinion, what are the key needs of people with neurodiversity and substance use addictions?
 - I. Do your service users readily identify as ND, do you think that they have an understanding what ND means. (in their context)
2. Has working with people who may be neurodiverse caused challenges in your service delivery? If yes, what are the main issues?
3. What do you think are the barriers for people with SUD and ND to get the help they need?
 - I. Has your service developed any resources to support people who are ND... Are you aware of any resources available to your service to support the delivery of a service to SUs who are or may be ND?
4. What do you think would help or/and enabler people to get the support they need.

- I. How do you think ND people cope with your service provision.... Is your organisation making any changes to service delivery or service infrastructure to help ND SUs to cope with the service or building?
 - II. Do you think there should be specific ND services for people who present as ND and are looking for addiction support.
5. In relation to the current drug treatment services, from your experience, what works well? And what do you think needs to improve.
- I. What services/ resources to you think your service needs to support ND people
 - II. Have you been able to provide training for your staff in neurodiversity awareness/ working with neurodiverse people.... If so, do you think the training provided for your Staff was/is adequate. Do you have funding to buy in training? Who should fund and deliver this training?
6. Do the services address the diversity of needs among your service users?
- I. Do you think there should be specific ND services for people who present as ND and are looking for addiction support.
7. When conducting research among people with SUD and ND what are the main challenges?
- I. Did you have difficulty getting service users to do the online survey.
 - II. Would you have any recommendations for conducting research among your services users.
8. From your own personal experiences is there anything else you would like to say or add.

Appendix 3.

Q14: Are you currently attending any type of Drug/Chems or alcohol treatment service? Other, please specify.

- Narcotics Anonymous
- Alcohol services I was always hard on myself for drinking, but it turned out I had ADHD put on meds and I stopped drinking thanks to my counsellors help.
- Alcoholics anonymous
- I found an online peer support group that helped me with resources, experiences, and accountability in getting sober. I had tried AA once, but it wasn't for me.
- I'm an alcoholic in recovery.
- Methadone Programme
- Methadone Treatment
- Narcotics Anonymous
- Narcotics Anonymous
- Needle syringe provision.
- Prison Links
- Soile Day Programme

- Working in addiction services

Q23: Do you consider yourself dependent on drugs or alcohol?

- 18 years Sober.
- Abstinent
- Binge user but can control when I need to for work or family.
- Cannabis
- cannabis is a supplement for ASD, THC mimics AEA, CBD mimics 2-AG, this is self-medication without side effects.
- Clean and sober
- drug and alcohol free.
- I am in recovery but have been previously alcoholic and drug addict and it nearly killed me overdosing and severe health implications.
- I can go without, but it makes things easier on my brain.
- I can use alcohol as a crutch when I am stressed. I am currently drinking more than I normally would be due to stress.
- I consider Marijuana to be medicine to treat my anxiety.
- I feel like I'm dependent on nonprescription stimulants as I can't get access to legitimate ADHD medication. I wouldn't be dependent if I was prescribed them by a doctor
- I use cannabis daily as a tool to help me.
- I was before I got diagnosed.
- I'm in recovery.
- In recovery 21 years
- In recovery from alcohol addiction
- Insulin. I'm a type 1 diabetic.
- Methadone only
- No - because I worked through it with other people and now I don't have an inclination towards it - but I could have easily been.
- No - previously had issues with binge drinking (infrequent drinker, but drinking to excess)
- No but if I didn't control my use and I wasn't aware of the risk I could become.
- No, but it is one of the most effective ways of self-medication for sensory overload.
- Not at the moment but I was dependent until 5 years ago.
- Sometimes on mood
- Therapeutic
- Tranax.
- Was alcohol and drug dependant but haven't used anything since 2002.
- Was now 16 years sober.
- While I use weed almost daily, I use it the help me sleep and reduce my anxiety. I have found it works best for me compared to other stuff I was prescribed by doctors.
- Yes, but can go without if necessary.

Q29: Are you self-medicating ADD/ADHD symptoms?

- 2.5mg to 5mg dexamphetamine daily 1x in the morning
- Alcohol
- At times with alcohol
- Caffeine, alcohol, and cannabis
- cannabis
- Cannabis helps calm my brain down,

- Cannabis is one of the few things I have found that makes my brain quiet.
- Cannabis to manage eating and hunger and most importantly sleep.
- Cannabis, Adderall, Ritalin
- CBD oil and vitamins
- Coffee to concentrate marijuana to calm down although stopped using for legal reasons.
- Could be baseline for most substance use.
- Currently smoking cannabis while waiting for follow up appointment.
- Don't know.
- Don't know, think so.
- Drinking
- Excessive exercise, hyperfocus
- Extra caffeine
- I could be.
- I find that using cannabis helps me focus and slows down my brain.
- I self-medicate with marijuana.
- I take over the counter decongestants sometimes to force myself to focus.
- I use cannabis safely in a small dry vape pen in small amounts as this has been excellent in changing my perception and calming me down so I can function so much better.
- I use weed daily as it gives my head peace.
- I was doing this with cannabis, and it prompted me to get an assessment. the medication has helped a lot.
- Maybe

Appendix 4

Do you find it difficult to engage with any aspect of a support service or drug treatment programme? Please expand/explain	
Identity challenges, the label of "addict" (n = 2)	"AA did not work for me. I don't align with the label of "alcoholic" and prefer to focus on the positives of sobriety than a loop of negative past experiences. I'm also not religious." "Don't feel I fit their profile"
Waitlists (n = 4)	"Attempted to engage with St Pats. Provided insurance details to them. Waited 6 months for assessment. Was assessed and told I could not become sober without residential care. Chose date for admittance. Was phone next day by St Pats finance dept to say my insurance plan (which they had details of for 6 months) wasn't accepted. Asked for advice on alternative services. None given. Received absolutely no follow up. Was lowest point in my life. That was 10 years ago and still scarred by the experience. Thankfully going to Rialto Community Drug Team which was the start of my recovery. Sober since." "I have not engaged with services and feel no need to do so, hence cannot speak from personal experience. I do however hear of long waiting times and rejection of patients by health services due to stigma around their drug use is greatly affecting the safety and health of any PWUD seeking help." "Previously waiting lists left me feeling hopeless as i was not stable enough to enter detox it took a year." "Waiting lists"
Stigma (n = 11)	"I have not engaged with services and feel no need to do so, hence cannot speak from personal experience. I do however hear of long waiting times and rejection of patients by health services due to stigma

	around their drug use is greatly affecting the safety and health of any PWUD seeking help.”
	“I was severely stigmatized at a service so had to go to another one because of fear of mistreatment. Also being out as a drug user makes it very hard to find employment.”
	“No, but some of the staff could be more empathetic”
	“Stigma”
	“They are not well advertised. You need to find someone to point you in the right direction and shame keeps you silent until it can't be hidden anymore. ”
	“yes, because they think they know better and are better than us.”
	“yes, they don't really care, just give us phy.”
	“yes, they treat dog better than the P.W.U.D”
	“yes, we are treated like dogs and if I was a dog, it would be animal cruelty.”
	“Yes, lots of stigma attached , even if you're admitted. Doctors mistrust you because you are admitting that you have an issue. Very expensive for those that are good. Free ones are not as robust and do not have the level of resources”
	“YES. There is stigma involved . And at the time, urine testing. That said, I don't need further drugs related services”
Language barriers (n = 2)	“Don't speak much English, it helped that my keyworker is Russian speaking”
	“Sometimes because of my lack of English, but my keyworker speaks Russian it makes it easier”
Issues related to neurodiversity, particularly group work. (n = 8)	“Diagnosed with dyslexia/dyspraxia possible ADD/ADHD”
	“Find large group work stressful”
	“I find group settings intensely over-stimulating and anxiety-provoking and I wish there were more one-to-one options especially when it comes to peer support. I feel rushed into making changes to my routine which is very distressing.”
	“In groups I don't like to talk if I do I feel stupid”
	“Process groups can cause more harm than good in some instances”
	“Yes - firstly when I could have done with one there was no easy access and secondly, no-one understood being anything but NT ”
	“Yes, I don't know if they'll be accepting of my gender or understand neurodiversity”
Trauma (n = 6)	“Find talking about my drug use and my past is hard”
	“Of course, at first, I was reluctant but once there I had no issues. The treatment was tough at the time, the emotional turmoil of facing my fears and traumas , but felt supported all the way through it and after. (2-year aftercare program)”
	“Of course. It was life changing and painful in so many ways to face the challenges of removing all my crutches and completely turning my life around.”
	“The most difficult part obviously is the first time going that's the part I found extremely difficult, facing it, but I've had a very positive experience throughout the course of engaging in treatment”
	“Yes, at times largely at the start as it was hard getting sober, I had to deal with a lot issues including child hood abuse and sexual abuse in adulthood”
	“Yes, because I wasn't mentally ready.”
Time constraints (n = 2)	“Finding the time to attend.”
	“Getting into a program is almost impossible if you have a job”

Accessibility issues (n = 8)	"no i found it difficult to access one"
	"Not sure it is available enough or if consistent enough"
	"There were a lot less services for people with my level of drug and alcohol (mis) use, but I managed to give up using marijuana, drinking alcohol, smoking cigarettes and doing any recreational drugs all around the same time (2009) on purpose as part of a wider healthier living push, but it also meant removing myself from my previous social life and no longer working in restaurants or bars. It "helped" that I then also developed various life limiting conditions precipitated by Perimenopause that led to me being predominantly housebound for 15 years!"
	"They are not well advertised. You need to find someone to point you in the right direction and shame keeps you silent until it can't be hidden anymore."
	"Yes - firstly when I could have done with one there was no easy access and secondly, no-one understood being anything but NT"
	"I was lucky in that I got treated near me but only because I knew someone if not, I might have had to go to Dublin City"
	"The first step is always the hardest. This is why there should be outreach programs available to encourage people to get in touch when they are ready to do so."
	"Yes. Lack of ease of access to assessment of needs. Addiction Treatment ASD, ADD, ADHD"
Relationships with service providers, feeling misunderstood, not listened to (n = 6)	"sometimes if I can connect with that person/people."
	"Sometimes. It depends if I can connect with that person/ people."
	"They seem to think any kind of drug use is an addiction whereas my drug use is casual"
	"X (illegible word) of commitment to their duty, that could speed up the whole process."
	"Yes, they do not understand my needs"
	"Yes, they just want to treat the drugs but I've more stuff going on."
Other difficulties e.g. Insurance issues Staffing issues No childcare available Type of service Safety concerns Difficulties with relapse Issues with detox Religiosity of some services like AA	"Attempted to engage with St Pats. Provided insurance details to them. Waited 6 months for assessment. Was assessed and told I could not become sober without residential care. Chose date for admittance. Was phone next day by St Pats finance dept to say my insurance plan (which they had details of for 6 months) wasn't accepted. Asked for advice on alternative services. None given. Received absolutely no follow up. Was lowest point in my life. That was 10 years ago and still scarred by the experience. Thankfully going to Rialto Community Drug Team which was the start of my recovery. Sober since."
	"constant locums"
	"Can't give up addiction"
	"don't attend aftercare"
	"Lack of childcare."
	"No, I don't but I do believe many find it difficult"
	"No, it's just that chems type are not really covered by services in Ireland"
	"Only if your low threshold. The most service offer are harm reduction. When lots of people would like detox that are low threshold. Again, it's about the criteria."
	"Safety concerns sometimes don't feel safe"
	"Yes, felt every time they fell off the wagon we were failing as a family. Mental health suffered and family relations were stressful"
	"Yes, because they don't treat you when you're not sober, and you can't get sober if they don't treat you."
	"Yes, I find it hard to express how I feel. When I am asked questions, I find it hard to answer"

	“Yes, while in Treatment in a drug center I was sick. I needed to go to hospital, and they wouldn't bring me, so I left and ended up having surgery. Then I had a relapse after coming out of hospital. Eventually I got her courage to return to a different treatment center in a different place P”
	“Yes. Specifically, the cannabis access program.”
	“AA did not work for me. I don't align with the label of "alcoholic" and prefer to focus on the positives of sobriety than a loop of negative past experiences. I'm also not religious. ”

Appendix 5

What do you think the Drugs/Chems Service or Project could do to make it easier for you to engage with the service or programme?	
Provide safe injection/use sites. (n = 2)	“Actually, do something to help those in need, give them secure places to use and rehab for those that want it, with no expense paid. ”
	“For the sake of tourism, give drug seeking individual’s facilities that can be visited and administer the drug of choice under medical supervision (e.g. Doctor and nurse)”
Reduce the cost of treatment/rehab. (n = 3)	“Actually, do something to help those in need, give them secure places to use and rehab for those that want it, with no expense paid. ”
	“less expensive”
	“Should be free of charge, available in the community like AA / NA”
Advertise more, spread awareness, improve accessibility. (n = 16)	“Advertisement”
	“Be more known, more public and more available in smaller towns and villages”
	“Easier access”
	“Getting more info put on the streets”
	“Having more local advertising to inform people which services are available to them in their area.”
	“I have not engaged with services and feel no need to do so, but I believe a walk-in support service would help any PWUD who seeks help to provide adequate immediate care.”
	“I overdosed at 40. Had my stomach pumped in the hospital and was then sent home with information about getting help. No real effort was made to help me when I was completed vulnerable and if it weren't for friends helping me get access to services, I wouldn't be alive”
	“I was searching for support my for daughter who was addicted to cocaine. I found it extremely difficult to access supports. When I did eventually find some help (a friend researched for me) I then learnt more from word of mouth.”
	“Knowing they were there rather than just in the cities. The rural population would be as hard hit as anyone and need help, but the accessibility is shockingly bad.”
	“More access at community level”
	“More awareness around that the service is free and an understanding of what they do or can do”
	“More information about services”
	“Online available every day”
	“Services need to be accessible for mothers and their children”

	"I have personally found that when you are ready for support the services are available to help. We could do with less barriers to detox, e.g. the criteria to enter detox can be too high for low threshold. Plus, the waiting list is too long. We do not have enough beds for detox and treatment. There are plenty of private treatment centers and not enough public. Keltoi had a high success rate and that was closed down." "Treatment is sparse, and more centers are needed and more staff."
Services and service providers need to be more knowledgeable about and experienced with substance use and treatment. (n = 5)	"Drugs chems services need to be more familiar with crystal meth & G." "Education of GPS to where the treatment centers are." "If they said openly what it is they help with - my issues with alcohol weren't addiction but problematic use" "Engaged in TC therapeutic program" "I must say Pearse St and Merchants Quay are wonderful. St James are dangerously lacking in experience"
Improve on bureaucracy/needless paperwork. (n = 3)	"Find it very noisy. Too much paperwork for certs" "Make it less bureaucratic and open without needing formal assessment every time you walk in the door. Less judgment from staff about wanting to be in active use. More options for people if they are currently using." "There is a lot of bureaucracy involved of accessing drug treatment services if you are unstable in drug use these hurdles need to be lessened"
Abolish the precondition of detoxing for treatment, make it easier to access detox services. (n = 5)	"For a lot of them, not making it a pre-condition that you are detoxed before being admitted." "Get better doctors in females as there's not enough and I was told I can't help ye come back when Dr. X is on and I'm trying to get off benzos all I need is a detox and it's so hard to get one." "I have personally found that when you are ready for support the services are available to help. We could do with less barriers to detox, e.g. the criteria to enter detox can be too high for low threshold. Plus, the waiting list is too long. We do not have enough beds for detox and treatment. There are plenty of private treatment centers and not enough public. Keltoi had a high success rate and that was closed down." "More detox units" "Offer drug free treatment programme"
Reduce the stigma, feeling accepted/understood, absence of judgment from service providers. (n = 10)	"I find the guilt approach of pit all blame for a person's addiction and actions on themselves solely is a hard approach to get when neurodivergent as your understanding and can be easily led down the wrong path with social interaction difficulties." "I found it to be extremely helpful, being able to speak with someone who had no background information about me, and no prejudged thoughts felt comforting" "I was very happy with all services it offered. Felt never judged and always encouraged to take self-responsibility. Got any support I need to get my life back again" "Look at me for me and that I'm a person trying to manage my situation" "Make it less bureaucratic and open without needing formal assessment every time you walk in the door. Less judgment from staff about wanting to be in active use. More options for people if they are currently using." "not have you waiting so long to get your phy in the clinic, not have people looking down on you." "Structure, non-judgmental approach, deal with emotions and feeling it helped me a lot." "They don't give a fuck" "They will never make it easy on any of us" "Treat us a little bit better"
	"I find the guilt approach of pit all blame for a person's addiction and actions on themselves solely is a hard approach to get when neurodivergent as your

Appreciate/understand the importance of neurodiversity in treatment. (n = 2)	understanding and can be easily led down the wrong path with social interaction difficulties.”
	“Reduce the emphasis on group-based treatment approaches. Understand how autism affects me individually , as a unique individual, and how this has led to my addiction. Don't use a one-size-fits-all approach, but take a person-centered, needs-based approach. Go at my pace and don't rush me.”
Address the issue of waitlists. (n = 4)	“I got fast tracked because I knew someone, at the time of had went through normal procedure it could have took up to 3 months which is like 1 year when you're desperate”
	“I have personally found that when you are ready for support the services are available to help. We could do with less barriers to detox, e.g. the criteria to enter detox can be too high for low threshold. Plus, the waiting list is too long. We do not have enough beds for detox and treatment. There are plenty of private treatment centers and not enough public. Keltoi had a high success rate and that was closed down.”
	“It was pretty good. Rang on a Monday, got assessed on the Wednesday, got offered a bed for the following Monday. I was lucky that my family paid for it. relatively inexpensive - €3200 at the time. Other places were looking for €8k or more. Any free state funded places would have seen me wait for months or even years (nobody could give any sort of coordinated timeline when it came to state funded treatment)”
	“ not have you waiting so long to get your phy in the clinic , not have people looking down on you.”
Need for LGBTQ+ services. (n = 2)	“I think the service could have more LGBTQ counsellors who would have more understanding on the matter”
	“Just more information of what services are available for gay men who engage in chemsex, I only discovered the services during my 3-month prep check questionnaire”
Other suggestions for services e.g. Holistic treatment More activities Provide childcare. More female doctors Include smoking cessation services. Remove religion from treatment	“If it is CE scheme, not threatening participants about their money being docked for being late or missing day would be a great start, it is counterproductive”
	“Maybe regular weekly slot”
	“Methadone maintenance needs to be PART of treatment and should include other holistic addons such as counselling etc.”
	“More activities to do. Engage in counselling. Follow-up program. More aftercare.”
	“more support, don't just medicate us.”
	“Provide more educational and employment pathways in conjunction with local businesses”
	“talk to me, listen”
	“I had an amphetamine addiction. Having been arrested the court stipulated I attend a drug treatment course & provide a urine sample once per week. They didn't care how much alcohol was in my system, just no drugs. Still battling with alcoholism as root causes were never explored. ”
	“Childcare”
	“Get better doctors in females as there's not enough and I was told I can't help ye come back when Dr. X is on and I'm trying to get off benzos all I need is a detox and it's so hard to get one.”
	“Stop Smoking Clinic.”
	“Yes, they should drop the holiness”