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Attention Deficit Hyperactivity Disorder (ADHD) and Young People in NSW Custody

JOHN KASINATHAN* AND JOEY LE[^]

Abstract

Attention deficit hyperactivity disorder (ADHD) is a disorder characterised by inattention, hyperactivity and impulsiveness, which can negatively impact learning and development and have lifelong implications. ADHD is more prevalent in marginalised groups, including young offenders. International and Australian evidence has more recently increased understanding about the variety of mental health problems that affect young offenders, including ADHD. However, exploration of ADHD in young offenders, cannot be divorced from an increasing understanding that young offenders have high rates of mental illness generally, with a high level of comorbidity. Young offenders further evince high rates of re-offending, re-incarceration and premature mortality. This expert commentary explores a preliminary examination of ADHD and psychiatric disorder comorbidity as elucidated by the Young People in Custody Health Survey (YPiCHS) conducted in NSW in 2015.¹ A description of the current state of physical and mental health service provision to young people interacting with the criminal justice system in NSW is provided. Improving our understanding of ADHD youth and comorbid psychiatric disorders in detention may help inform prevention, intervention, policy and practice.

I Introduction

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterised by inattention, hyperactivity and impulsivity, which can negatively impact learning

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¹ Justice Health & Forensic Mental Health Network and Juvenile Justice NSW, *2015 Young People in Custody Health Survey (YPiCHS): Full Report* (Justice Health & Forensic Mental Health Network, 2017). At the time of publication, the YPiCHS conducted in 2015 was the most recent comprehensive health survey of NSW young people in custody.

and development² and may have lifelong implications with social, economic, and personal consequences for over 280,000 children and adolescents and 530,000 adults in Australia alone.³ ADHD is more prevalent in marginalised groups, including young offenders.⁴ Prevalence rates of ADHD in juvenile and youth detention settings have been reported between 26.2% - 30.1% and ADHD in this population has often gone unrecognised and untreated.⁵

Internationally, there is a greater focus on understanding the impact of mental health problems in offenders, including ADHD in young offenders.⁶ Although it has been well-established in the literature that ADHD is overrepresented in youth detainees, few studies have examined the impact of ADHD on functional or correctional outcomes in this population. In Australia, young people aged 10-17 years of age who commit a crime enter the youth justice system and may be detained in a youth justice facility.⁷ We know little about how young people with ADHD in these facilities differ from other young people who enter detention. Young people with ADHD who enter detention may fair worse than non-ADHD youth, as ADHD symptoms are associated with a wide range of cognitive, behavioural, social and emotional deficits which may impact their ability to adapt and function well in detention.⁸ Improving our understanding of ADHD youth in detention may assist with informing prevention, intervention, policy and practice.

II Objective of the Current Study

This commentary explores statistical examination of ADHD and psychiatric disorder comorbidity as revealed in the Young People in Custody Health Survey (YPiCHS) conducted in NSW in 2015. However, an exploration of ADHD in young offenders, cannot be divorced from a now well-established understanding that young

² Stephen V Faraone et al, 'The World Federation of ADHD International Consensus Statement: 208 Evidence-Based Conclusions about the Disorder' (2021) 128 *Neuroscience and Biobehavioral Reviews* 789.

³ Emma Sciberras et al, 'Social and Economic Costs of Attention-Deficit/Hyperactivity Disorder Across the Lifespan' (2022) 26(1) *Journal of Attention Disorders* 72.

⁴ Stéphanie Baggio et al, 'Prevalence of Attention Deficit Hyperactivity Disorder in Detention Settings: A Systematic Review and Meta-Analysis (2018) 9 *Frontiers in Psychiatry* 331.

⁵ Susan Young et al, 'A Meta-Analysis of the Prevalence of Attention Deficit Hyperactivity Disorder in Incarcerated Populations' (2015) 45(2) *Psychological Medicine* 247.

⁶ Irina Franke et al, 'Prison Mental Healthcare: Recent Developments and Future Challenges' (2019) 32(4) *Current Opinion in Psychiatry* 342; Ola Ståhlberg, Henrik Anckarsäter and Thomas Nilsson, 'Mental Health Problems in Youths Committed to Juvenile Institutions: Prevalences and Treatment Needs' (2010) 19(12) *European Child & Adolescent Psychiatry* 893.

⁷ Australian Institute of Health and Welfare, *Youth Justice in Australia 2017–18* (AIHW, 2019); Australian Institute of Health and Welfare, *Youth Justice in Australia* (Report No JUV 129, 18 April 2019).

⁸ Susan J Young et al, 'The Identification and Management of ADHD Offenders within the Criminal Justice System: A Consensus Statement from the UK Adult ADHD Network and Criminal Justice Agencies (2011) 11(1) *BMC Psychiatry* 32.

offenders have high rates of mental illness generally. Stigma of mental illness is exacerbated by stigmas of incarceration and social exclusion.⁹ Incarcerated youth also have poor physical health and limited access to healthcare, in comparison to their community counterparts.¹⁰ Young offenders further evince high rates of re-offending.¹¹ These varied factors and contributors to overall health and functioning are discussed further below.

III Health Characteristics of Incarcerated Youth and Implications

A *Physical Health*

Concerning physical health, 42% of NSW youth detainees were found to be obese or overweight, 18% had mild to moderate hearing loss, almost 25% had asthma and 33% reported a head injury that resulted in a loss of consciousness.¹² However, insight into their health status was poor as over 90% described their health as good or better.¹³ This limited insight may contribute to the lack of community-based health care for this population.

Similar rates of physical health need in incarcerated youth have been identified in other developed Western jurisdictions.¹⁴ A New York study showed 46% of over 47,000 young people were diagnosed with medical problems during their stay.¹⁵ These included substance use issues, sexual health and blood borne virus diseases, dental health, and a range of other medical concerns including respiratory tract infections. A study from the mid-1990s found 10% of youth on admission for the first time had significant medical problems, asthma most commonly.¹⁶ These early findings suggest that the problem of poor health status of incarcerated youth is not new. Several other studies consistently found

⁹ Prathiba Chitsabesan and Susan Bailey, 'Mental Health, Educational and Social Needs of Young Offenders in Custody and in the Community' (2006) 19(4) *Current Opinion in Psychiatry* 355.

¹⁰ Royal Australasian College of Physicians, *The Health and Wellbeing of Incarcerated Adolescents* (RACP, 2011)

¹¹ Devon Indig, Amie Frewen and Elizabeth Moore, 'Predictors and Correlates of Re-Incarceration Among Australian Young People in Custody' (2016) 49(1) *Australian & New Zealand Journal of Criminology* 73.

¹² Carey Marr et al, 'The Prevalence of Mental Illness in Young People in Custody over Time: A Comparison of Three Surveys in New South Wales' (2023) *Psychiatry, Psychology and Law* 1.

¹³ Devon Indig et al, *2009 NSW Young People in Custody Health Survey* (Justice Health and Juvenile Justice, 2011).

¹⁴ Yolisha Singh, John Kasinathan and Andrew Kennedy, 'Incarcerated Youth Mental and Physical Health: Parity of Esteem' (2017) 10(3) *International Journal of Human Rights in Healthcare* 203.

¹⁵ Mana Golzar, Stephen J Hunt and Arash Anoshiravani, 'The Health Status of Youth in Juvenile Detention Facilities' (2006) 38(6) *Journal of Adolescent Health* 776.

¹⁶ Ronald A Feinstein et al, 'Medical Status of Adolescents at time of Admission to a Juvenile Detention Centre' (1998) 22(3) *Journal of Adolescent Health* 190.

higher rates of substance use, sexually transmitted infections (STIs) and trauma in incarcerated youth compared to community age-matched cohorts.¹⁷ A recent large global scoping review showed that detained adolescents commonly experience poor health across a range of physical and mental health domains, including mental disorders, self-harm and suicidal behaviour, substance use disorders, neurodevelopmental disabilities, blood-borne viruses and STIs, and sexual and reproductive health.¹⁸

B *Psychiatric Disorders and Mental Health*

Youth in detention have high rates of psychiatric or mental disorder.¹⁹ The most seminal study, published in 2002, involved 1,829 US incarcerated youth.²⁰ In this study, 60% of males and 67% of females met diagnostic criteria for psychiatric disorder excluding conduct disorder (CD).²¹ Further research demonstrated that the six-month prevalence of substance disorders (50%), CD (41%), anxiety disorders (31%) and mood disorders (28%) were higher than community estimates for detained adolescents.²² An international large meta-analysis conducted in 2008 found 3.3% of males and 2.7% of females were diagnosed with psychotic illness, 10.6% and 29.2% with major depression, 11.7% and 18.5% with ADHD, and 52.8% and 52.8% with CD, among 13,778 male and 2,972 female youth respectively.²³ This international, broad-scoping meta-regression analysis was recently updated to include 47 studies from 19 countries comprising 28,033 male and 4,754 female adolescents.²⁴ The mean age of adolescents assessed was 16 years (range 10–19 years). In male adolescents, 2.7% (95% confidence interval [CI] 2.0%–3.4%) had a diagnosis of psychotic

¹⁷ William C Miller et al, 'Prevalence of Chlamydial and Gonococcal Infections Among Young Adults in the United States' (2004) 291(18) *Journal of the American Medical Association* 2229; Heidi M Bauer et al, 'Chlamydia Screening of Youth and Young Adults in Non-Clinical Settings throughout California' (2004) 31(7) *Sexually Transmitted Diseases* 409; Christopher B Forrest et al, 'The Health Profile of Incarcerated Male Youths' (2000) 105(Supp 2) *Pediatrics* 286.

¹⁸ Rohan Borschmann et al, 'The Health of Adolescents in Detention: A Global Scoping Review' (2020) 5(2) *The Lancet Public Health* e114.

¹⁹ Thomas Grisso, 'Progress and Perils in the Juvenile Justice and Mental Health Movement' (2007) 35(2) *Journal of the American Academy of Psychiatry and Law* 158.

²⁰ Linda A Teplin et al, 'Psychiatric Disorders in Youth in Juvenile Detention' (2002) 59(12) *Archives of General Psychiatry* 1133.

²¹ *Ibid.*

²² Rani A Desai et al, 'Mental Health Care in Juvenile Detention Facilities: A Review' (2006) 34(2) *Journal of the American Academy of Psychiatry and Law* 204.

²³ Seena Fazel, Helen Doll and Niklas Långström, 'Mental Disorders Among Adolescents in Juvenile Detention and Correctional Facilities: A Systematic Review and Metaregression Analysis of 25 Surveys' (2008) 47(9) *Journal of the American Academy of Child and Adolescent Psychiatry* 1010.

²⁴ Gabrielle Beaudry et al, 'An Updated Systematic Review and Meta-Regression Analysis: Mental Disorders among Adolescents in Juvenile Detention and Correctional Facilities' (2021) 60(1) *Journal of the American Academy of Child & Adolescent Psychiatry* 46.

illness; 10.1% (95% CI 8.1%–12.2%) major depression; 17.3% (95% CI 13.9%–20.7%) ADHD; 61.7% (95% CI 55.4%–67.9%) CD; and 8.6% (95% CI 6.4%–10.7%) PTSD. In female adolescents, 2.9% (95% CI 2.4%–3.5%) had a psychotic illness; 25.8% (95% CI 20.3%–31.3%) major depression; 17.5% (95% CI 12.1%–22.9%) ADHD; 59.0% (95% CI 44.9%–73.1%) CD; and 18.2% (95% CI 13.1%–23.2%) PTSD. Meta-regression found higher prevalences of ADHD and CD in investigations published after 2006. Female adolescents had higher prevalences of major depression and PTSD than male adolescents.

C *Mortality*

Sadly, the above psychiatric morbidity is seen to translate to elevated mortality rates. Australian incarcerated youth followed for 12 years demonstrated that males were nine times and females 41 times more likely to die than youth in the general population.²⁵ The leading causes of death were found to be drug-related, death by suicide and non-intentional injury.²⁶ Prior outcome studies in offending young people suggested that death rates were increased,²⁷ but prior to this landmark study, there were no systematic reports of mortality ratios in young offenders. Comparison of standardised mortality ratios in this young offender sample and other groups with high death rates emphasised the importance of the findings. In people with a history of child and adolescent psychiatric treatment the standardised mortality ratio is 3.7 for all causes, 1.6 for schizophrenia, and 4.9 for anorexia nervosa.²⁸ The finding that death rates in young offenders exceed those in groups with even higher rates of psychiatric and behavioural disorders indicates that the social disadvantage and marginalisation experienced by this group are likely additional contributing factors. The high rates of deaths due to drug overdose and death by suicide found in this study suggest a need for better responses to prevalent problems of substance use and psychiatric disorders in young offender populations.

Accumulating understanding internationally has echoed the findings of the above landmark Australian study. US incarcerated youth followed for 7.2 years had a mortality rate four times the general population, female mortality was nearly eight times the general population.²⁹ A recent psychological autopsy study from Sweden found an association between antisocial behaviours in youth and both suicide

²⁵ Carolyn Coffey et al, 'Mortality in Young Offenders: Retrospective Cohort Study' (2003) 326(7398) *British Medical Journal* 1064. This landmark paper references past mortality reports.

²⁶ *Ibid.*

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ Linda A Teplin et al, 'Early Violent Death among Delinquent Youth: A Prospective Longitudinal Study' (2005) 115(6) *Pediatrics* 1586.

and sudden violent death.³⁰ A recent Australian study found young people who have served community-based and custodial orders were at increased risk of preventable death.³¹ Most deaths were due to drug overdose, traffic accidents or suicide. Those engaging in risky substance use, particularly injecting drug use and use of multiple central nervous system depressants, were at greatest risk.

Despite the above overwhelming Australian and global data on premature mortality for young offenders, a recent systematic review across studies from five countries found little to no impact of crime and violence prevention and related social interventions for at-risk and criminally involved youths and adults on premature mortality over the life-course.³²

D *Reincarceration*

Notwithstanding high rates of youth recidivism generally, a 2015 NSW study found that those with psychiatric disorders were strikingly different with respect to drivers of reincarceration.³³ Reincarceration for those with psychiatric disorders (90%) was higher than generic incarcerated young offenders (50%); half within five months of release.³⁴ Serious mental illness (schizophrenia spectrum disorder, bipolar disorder and schizoaffective disorder) predicted rapid reincarceration, with shorter community survival than those without those diagnoses. Psychiatric treatment improved community survival.³⁵

For incarcerated youth with serious mental illness, impaired executive functioning, poor insight, reluctance to accept psychiatric diagnosis due to stigma, side-effect concerns and poor familial resources, likely compound an exacerbating cycle of poor engagement with community mental health providers, treatment non-adherence and substance relapse, culminating in rapid reincarceration. Efforts for mentally ill incarcerated youth cannot be solely guided by whole-of-population studies, where majority criminogenic factors subsume the needs of youth with mental illness.³⁶

³⁰ Annelie Werbart Törnblom et al, 'Who is at Risk of Dying Young from Suicide and Sudden Violent Death? Common and Specific Risk Factors Among Children, Adolescents, and Young Adults' (2020) 50(4) *Suicide and Life-Threatening Behavior* 757.

³¹ Stuart A Kinner et al, 'Mortality in Young Offenders' (2015) 34 *Drug and Alcohol Review* 46.

³² Brandon C Welsh, Steven N Zane and Jillian Reeves, 'Impact of Interventions for At-Risk and Criminally Involved Youths and Adults on Premature Mortality over the Life-Course: A Systematic Review and Meta-Analysis' (2022) 8 *Journal of Developmental and Life-Course Criminology* 25.

³³ John Kasinathan, 'Predictors of Rapid Reincarceration in Mentally Ill Young Offenders' (2015) 23(5) *Australasian Psychiatry* 550.

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ *Ibid.*

In addition to serious mental illness, international meta-analyses (n=15,265) found that significant global predictors of youth re-offending were younger age, family problems and conduct problems.³⁷ Among Australian studies, predictors of reoffending include heavy alcohol and cannabis use, younger age, male gender, Aboriginality, prior child maltreatment notification, and prior offences.³⁸ A recent Turkish study found that adolescents who were re-incarcerated had lower education, committed more violent crimes, and reported elevated use of substances, suicide attempts, and psychopathology.³⁹ A Norwegian study focused on people who use drugs, found that young males charged with theft, who injected stimulants and/or heroin had increased risk of re-incarceration.⁴⁰ A recent US study found adverse childhood experiences and substance use predicted subsequent reoffending.⁴¹ For incarcerated youth, it would appear that optimal psychiatric treatment for those with mental illness, treatment for substance use disorders, and attentive post-release care are critical.⁴²

IV Young People in Custody in NSW

The last 15 years in Australia have seen more attention paid to the health status of youth in custody. Such attention has been most notably through health surveys conducted in NSW by the Department of Juvenile Justice (now Youth Justice (YJ)) and Justice Health and the Forensic Mental Health Network (JHFMHN). These Young People in Custody Health Surveys (YPiCHS) were conducted in 2003, 2009 and 2015. Whilst data are available from other Australian and international jurisdictions, the YPiCHS data are among the most comprehensive. The 2015 Young People in Custody Health Survey (published in 2017) surveyed 227 young people in NSW Juvenile Detention Centres in 2015.⁴³ The survey included a total of 227 young people, or 58% of all young people in custody at that moment in time. This represented 90% of all those

³⁷ Cindy C Cottle, Ria J Lee and Kirk Heilbrun, 'The Prediction of Criminal Recidivism in Juveniles: A Meta-Analysis' (2001) 28(3) *Criminal Justice and Behavior* 367; Jun Sung Hong et al, 'Re-Arrest Among Juvenile Justice-Involved Youth: An Examination of the Static and Dynamic Risk Factors' (2013) 30(2) *Residential Treatment for Children & Youth* 131.

³⁸ Indig, Frewen and Moore (n 11) 73.

³⁹ Gülen Güler Aksu et al, 'Correlates and Predictors of Re-Incarceration Among Turkish Adolescent Male Offenders: A Single-Center, Cross-Sectional Study' (2022) 80 *International Journal of Law and Psychiatry* 101726.

⁴⁰ Linn Gjersing and Anne Line Bretteville-Jensen, 'Characteristics and Risk of Incarceration Among "Hard-to-Reach" People who use Drugs: A Five-Year Prospective Cohort Study Combining Self-Reports and Registry Data' (2021) 95 *International Journal on Drug Policy* 103288.

⁴¹ Shelby Weber and Shannon Lynch, 'Understanding the Relations Among Adverse Childhood Experiences (ACE), Substance Use, and Reoffending Among Detained Youth' (2021) 120 *Child Abuse and Neglect* 105211.

⁴² Kasinathan (n 33) 550-5.

⁴³ Justice Health and Forensic Mental Health Network, and Juvenile Justice (NSW), 2015 Young People in Custody Health Survey (Full Report 2017).

invited to participate. The survey was completely voluntary. Ethics approval was obtained from JHFMHN, YJNSW, and Aboriginal health and medical research ethics committees.⁴⁴ YPiCHS involved face-to-face clinical interviews, with physical, mental health and cognitive assessments, and blood and urine tests. The Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) was used to assess for mental disorders, which correlated closely with DSM-IV diagnostic criteria.⁴⁵

A Key Social, Physical Health and Intellectual Findings of the YPiCHS

The 2015 YPiCHS found that 21% were in out of home care and only 27% had attended school prior to entering custody. 21% of young females came from unstable accommodation. 53% had one parent incarcerated. 68% reported a history of childhood abuse or neglect. 28% had indications of severe childhood abuse or neglect.⁴⁶ One quarter had a history of a clinically significant head injury with reported loss of consciousness. 46% were found to be physically overweight. Young people tended to be sexually active (97%), 72% reported irregular use of condoms. 10% were diagnosed with a sexually transmitted infection. Overall, young people in custody had intellectual difficulties and scored an average full scale intelligence quotient (FSIQ) of 78.7. 16.6% were at least in the mild intellectual disability range (FSIQ < 70).⁴⁷

1 Substance Use

Substance use was found to be highly prevalent: 82% had at least weekly illicit drug use, 78% were intoxicated at the time of the offence, 65% did crime to get alcohol or other drugs and 58% had at least one substance use disorder. Overall, 85% reported regular nicotine use, commencing from a median of 12 years of age. 90% engaged in hazardous or harmful drinking, 52% said alcohol caused them problems. 90% reported cannabis use; and 60% of those with more than weekly cannabis use met formal clinical criteria for substance dependence disorder. Concerningly, 55% reported using crystal methamphetamine. Notably this was a threefold increase from the 2009 YPiCHS where 18% reported such use. For crystal methamphetamine users, 89% met clinical criteria for substance dependence disorder. Overall, 42% used ecstasy and 32% reported cocaine use.⁴⁸

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

2 *Mental Disorders (other than ADHD)*

Eighty-three percent had at least one psychiatric disorder. 63% had 2 or more psychiatric disorders and 45% met criteria for CD - which was twenty times higher than the expected community population rate of 2.1%. Mood disorder was found in 12%, more than double the population prevalence of 5%; 24% had anxiety disorder, noted to be three times the population prevalence of 7%; and 13.5% met diagnostic criteria for post-traumatic stress disorder (PTSD). Overall, 4.2% met diagnostic criteria for schizophrenia or other psychosis, which was ten times the population prevalence of about 0.3%.⁴⁹

The above psychiatric disorders were not without elevated risk markers: 10.6% reported recurrent suicidal thoughts, one in ten had engaged in suicidal acts with intent, and 5.4% had self-harmed previously. Whilst in custody, 9% had suicidal thoughts, 1.8% reported having made a suicide attempt, and 10% reported self-harm.⁵⁰

3 *ADHD*

Of the 192 youth who participated in the mental health screening, 20.8% met criteria for ADHD. This was noted to be three times the expected rate in the general community of 6.3%. There was a notably higher prevalence (27%) in females reported – this was ten times the population prevalence of 2.7% for adolescent females.⁵¹

(a) ADHD and Disruptive Behaviour Disorders

A useful comparison of rates of ADHD alongside other disruptive behaviour disorders found in YPiCHS is shown below (Table 1), which breaks down rates according to gender and Aboriginality. Notably there was no marked difference in rates of ADHD and CD between Aboriginal and non-Aboriginal youth.⁵²

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

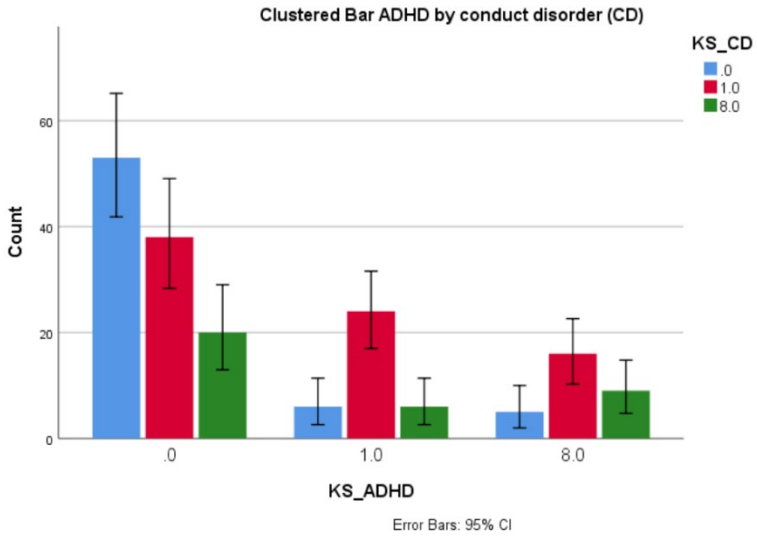
⁵² Ibid.

Table 1: ADHD and Behavioural Disorders in YPiCHS

	Males (n=180) %	Females (n=11) %	Aboriginal (n=100) %	Non- Aboriginal (n=92) %	Total (N=192) %
ADHD	20.6	27.3	21.0	20.7	20.8
ADHD not otherwise specified	1.7	0.0	3.0	0.0	1.6
Oppositional defiant disorder	2.8	0.0	4.0	2.2	3.1
CD	46.7	27.3	46.0	44.6	45.3
Disruptive not otherwise specified	5.6	45.5	9.0	6.5	7.8
Any attention / behavioural disorder	58.3	72.7	60.0	58.7	59.4

Exploration of YPiCHS data comparing ADHD and CD found some interesting differences between young people with ADHD compared to those without ADHD (Figure 1; .0 = diagnosis not present; 1.0 = diagnosis present; 8.0 = sub-syndrome for diagnosis). The majority of young people with ADHD met criteria for CD. The majority of young people without ADHD did not meet criteria for CD.

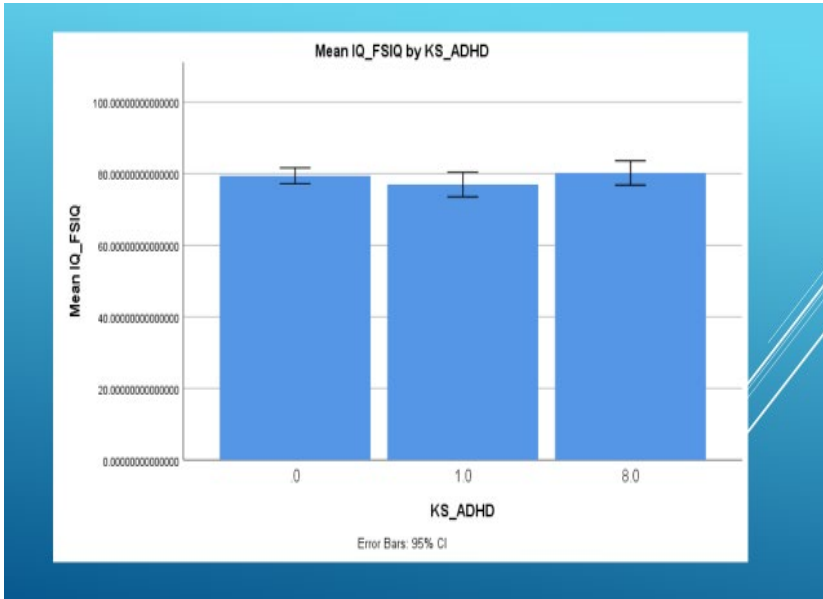
Figure 1: ADHD Diagnosis Versus CD Diagnosis
[.0 = diagnosis not present; 1.0 = diagnosis present; 8.0 = sub-syndromal for diagnosis]



(b) ADHD and Intellectual Ability

Exploration of YPiCHS data comparing ADHD and full-scale intelligence quotient (FSIQ) found no significant differences between young people with ADHD, sub-syndromal ADHD and those without ADHD and their intellectual ability (Figure 2; .0 = ADHD diagnosis not present; 1.0 = ADHD diagnosis present; 8.0 = sub-syndromal for ADHD diagnosis).

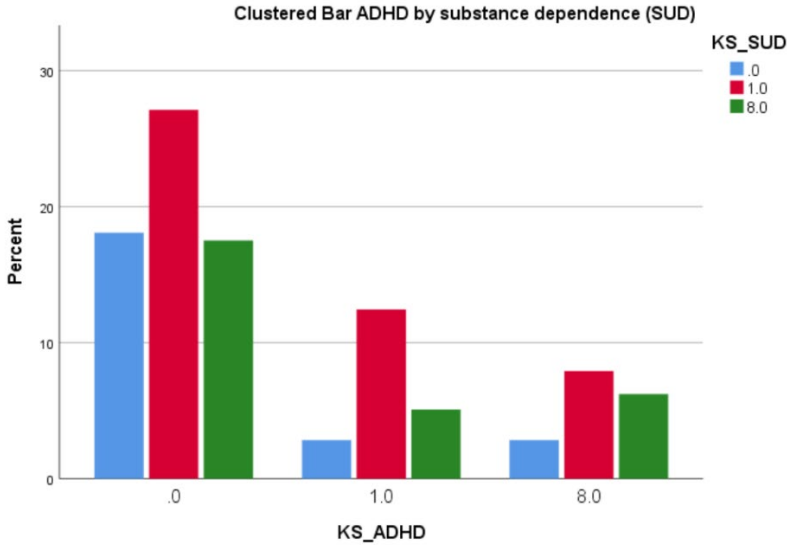
*Figure 2: ADHD Diagnosis Versus Full Scale IQ (FSIQ)
[.0 = ADHD not present; 1.0 = ADHD present; 8.0 = sub-syndromal for ADHD]*



(c) ADHD and Substance Dependence Disorders

Exploration of YPiCHS data regarding substance dependence rates found interesting differences between young people with ADHD compared to those without ADHD (Figure 3; .0 = diagnosis not present; 1.0 = diagnosis present; 8.0 = sub-syndrome for diagnosis). The majority of young people with ADHD met criteria for a substance dependence disorder. The majority of young people without ADHD also met criteria for a substance dependence disorder, however the relative proportion of substance dependency was greater in young people with ADHD.

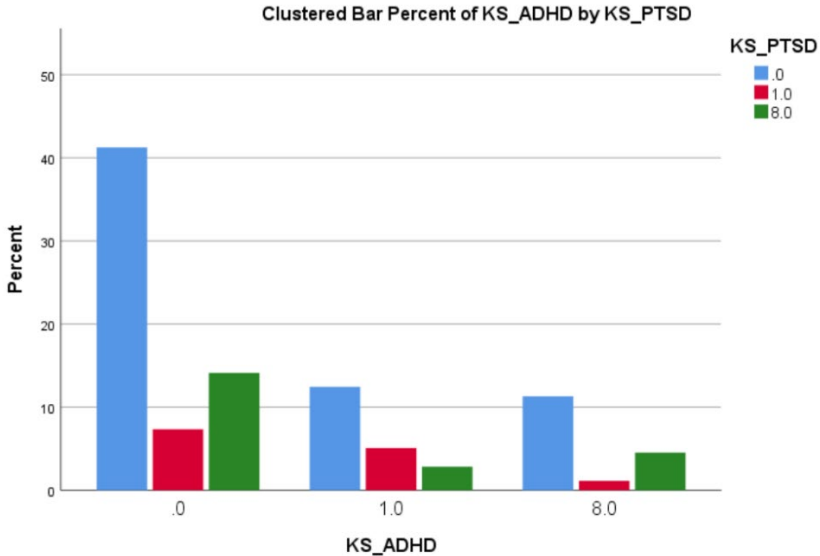
Figure 3: ADHD Diagnosis Versus Substance Dependence (SUD) Diagnosis [.0 = diagnosis not present; 1.0 = diagnosis present; 8.0 = sub-syndromal for diagnosis]



(d) ADHD and Post-Traumatic Stress Disorder (PTSD)

Exploration of YPiCHS data regarding ADHD compared to PTSD diagnoses found interesting differences between young people with ADHD compared to those without ADHD (Figure 4; .0 = diagnosis not present; 1.0 = diagnosis present; 8.0 = sub-syndrome for diagnosis). The majority of young people with and without ADHD did not meet criteria for PTSD. However, the relative proportion of PTSD was greater in young people with ADHD, compared to those without ADHD. Sub-syndromal ADHD had very little comorbid PTSD.

Figure 4: ADHD Diagnosis Versus Post-Traumatic Stress Disorder (PTSD) Diagnosis
[.0 = diagnosis not present; 1.0 = diagnosis present; 8.0 = sub-syndromal for diagnosis]



V Health Interventions for Young People Interacting with the Criminal Justice System in NSW

In 2003 the responsibility for the healthcare of incarcerated youth in NSW was transferred from the then Department of Juvenile Justice (now Youth Justice (YJ)) to the Department of Health. A subsidiary of the Department of Health, Justice Health and the Forensic Mental Health Network (JHFMHN), has subsequently been the sole provider of custodial adult and adolescent healthcare, as well as forensic mental health services in NSW.

A Adolescent Court Diversion in NSW

As of 2023, the JHFMHN Adolescent Court and Community Team (ACCT) provides a Court Diversion Program to 21 Children's Courts across NSW as advocates for court diversion for young people who are eligible for mental health or cognitive impairment diversion under the *Mental Health and Cognitive Impairment Forensic Provisions Act 2020* (NSW). ADHD can qualify under the relevant legislation as grounds for mental health diversion. Established in 2006, ACCT currently comprises a 6 full time equivalent multidisciplinary team of mental health nurses, occupational therapists and psychologists. On-call support and case reviews are provided by a JHFMHN child and

adolescent and/or forensic psychiatrist. The team reports to a clinical director and a service manager.

ACCT clinicians review the daily court list and liaise with key stakeholders to identify young people who may benefit from mental health assessments who are appearing before the Children's Court. Solicitors gain consent and legal instructions from the young person prior to the ACCT clinician being able to assess them. Clinicians provide comprehensive mental health assessment, including drug and alcohol and risk assessment. Clinicians formulate any relevant mental health needs of the young person, provide a court report to the Children's Magistrate and refer young people to appropriate treatment and mental health services for follow-up care and treatment. Apart from ACCT, other efforts to divert young people away from the criminal justice system include a variety of programs such as YJ conferencing, Youth on Track and Youth Koori Court.

B Health Care in NSW Custody

In 2019-2020, the average daily number of young people in NSW YJ custody was 251. On average 112 (45%) were Aboriginal and/or Torres Strait Islander. To get an idea of turnover, a total of 3,381 young people were admitted to YJ centres in 2019-20.⁵³ Across Australia, Aboriginal young people aged 10-17 were detained at 21 times the rate of non-Aboriginal young people.⁵⁴ All incarcerated youth receive a health screen conducted by a primary health registered nurse within 48 hours of admission. This screen incorporates both physical and mental health components, with the latter comprising the Screening Questionnaire Interview for Adolescents (SQIFA).⁵⁵ YJ additionally employs specialist psychologists who conduct initial psychological screening.

Incarcerated youth identified on screening as needing mental health assessment are referred to the custodial mental health team, comprising a psychiatrist and a specialist mental health and drug and alcohol nurse for each JJ centre. The mental health nurse undertakes a comprehensive mental health assessment as per a guided framework. All cases are discussed at a multi-agency meeting. The meeting is attended by JHFMHN staff comprising the adolescent psychiatrist, primary health nurse, mental health nurse; YJ staff, including psychologists, drug and alcohol counsellors; and Department of Education staff or the school

⁵³ Department of Justice (NSW), *Young People in Custody: Key Service Measures for 2019-2020* (2021).

⁵⁴ Australian Institute of Health and Welfare, *Youth Detention Population in Australia 2021* (AIHW, 2021) (Web Page) <<https://www.aihw.gov.au/reports/youth-justice/youth-detention-population-in-australia-2019/contents/summary>>.

⁵⁵ Yolisha Singh, John Kasinathan and Andrew Kennedy, 'Incarcerated Youth Mental and Physical Health: Parity of Esteem' (2017) 10(3) *International Journal of Human Rights in Healthcare* 203.

counsellor when required. Referral to treatment intervention is then determined.⁵⁶

Given the prevalence of physical health problems in incarcerated youth, all youth should have a comprehensive medical history and examination promptly after incarceration that can screen for physical health problems.⁵⁷ In NSW, youth identified on screening as needing physical health treatment are referred to the visiting JHFMHN general practitioner (GP), who assesses the young person and introduces evidence-based treatment as required. Primary care nurses and the GP develop an ongoing health plan that encompasses interventions including immunisations, sexual health, and basic healthcare. Dental healthcare is provided by a visiting dentist.⁵⁸

Mental health treatment modalities include psychiatric treatments, encompassing biological and limited psychotherapy interventions. Mental health nurses provide initial gathering of collateral information and psychoeducation. YJ delivers offence-focused psychological interventions, with a cognitive-behavioural framework. ADHD diagnoses are confirmed or made by the visiting JHFMHN psychiatrist, with treatment and monitoring provided by the psychiatrist and mental health nurse.⁵⁹ For youth in custody with serious mental illness who are unable to be adequately treated in a YJ detention centre, the Network visiting psychiatrist is able to refer this small proportion of high-needs young people to a 6-bed high-secure adolescent forensic psychiatric inpatient unit situated at the Forensic Hospital (a 135-bed high-security psychiatric hospital) in Malabar, Sydney.⁶⁰

C Post-Release Health Support in NSW

Community healthcare follow-up for the needs of youth leaving custody is poor across international jurisdictions. The efficacy of the treatment and re-integration programs has been inadequately assessed.⁶¹ In NSW, a health community integration team assists young people with substance use disorder and/or mental illness, to access relevant community-based mental health and drug and alcohol services. Led by an adolescent forensic psychiatrist, clinicians provide brief interventions such as psychoeducation, family engagement, and advocacy. An Aboriginal clinical leader provides support. The team closely collaborates with community YJ officers to provide assistance

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ John Kasinathan and Yolisha Singh, in Dan Howard and Bruce Westmore (eds), *Crime and Mental Health Law in New South Wales: Child and Adolescent Forensic Psychiatry* (LexisNexis Butterworths, 3rd ed, 2018).

⁶⁰ Ibid.

⁶¹ Singh, Kasinathan and Kennedy (n 14) 203-12.

such as transport to health appointments, applications for social welfare and re-integration into education, supported by school-link officers.⁶²

VI Discussion

Unfortunately, young people interacting with the Australian criminal justice system have an overrepresentation of Aboriginal young people who face at times various social adversities.⁶³ Young people in custody present with high levels of psychiatric disorders, one of which is attention deficit hyperactivity disorder (ADHD). This high level of psychiatric burden sadly translates later to high levels of premature mortality and elevated rates of subsequent re-incarceration, as discussed earlier. ADHD is certainly more prevalent in marginalised groups, including young offenders. However, comorbidity of ADHD with other psychiatric disorders in young offenders is the rule rather than the exception. The mental health and physical health complexities of detained adolescents provides more than ample justification for the provision of psychiatric and physical health initiatives to young people in custody, as well as for efforts to divert them away from incarceration and to support their integration into their communities more effectively. Publicly funded health service efforts are summarised in the preceding section. Improving the detection and treatment of psychiatric and physical health disorders in detained adolescents requires greater service funding.

This commentary explored further analysis of ADHD and psychiatric disorder comorbidity based upon the dataset from the YPiCHS conducted in NSW in 2015.⁶⁴ Particular psychiatric disorders of note were found to be highly comorbid with ADHD in custodial young people. The findings demonstrated marked ADHD comorbidity with CD, substance dependence disorders and post-traumatic stress disorder. Therefore, ADHD is just one part of the broader picture and our understanding of the mental health of young people in custody.

High levels of comorbidity with different psychiatric disorders, means that the treatment approaches for ADHD for young people in custody cannot be a carbon copy of youth treatment approaches for ADHD in the community. Young offenders with ADHD deserve more nuanced consideration with the design of their treatment, compared to non-offending young patients with ADHD alone. For instance, clinically, stimulant medications cannot be prescribed in NSW for a patient who has substance dependence. However, it would be appropriate to consider non-stimulant ADHD medication options such as atomoxetine, clonidine or guanfacine, where young people have

⁶² Kasinathan and Singh (n 59).

⁶³ Justice Health and Forensic Mental Health Network and Juvenile Justice (NSW) (n 43).

⁶⁴ *Ibid.*

substance dependence comorbidity with ADHD.⁶⁵ These specific pharmacological options are more salient for young people with ADHD who are interacting with the criminal justice system.

The reader may rightly question why this commentary has focussed on ADHD and psychiatric comorbidity data from NSW Australia. What about other studies conducted in this area? Some of the international work has been referenced in the present paper. Notably, the most recent large-scale systematic review and meta-regression analysis of detained adolescents internationally, found that owing to discrepancies in how substance use disorder and other mental disorders were classified between studies, it was not possible to reliably examine comorbidity.⁶⁶ Those authors noted that because adolescents with comorbid disorders generally present an elevated criminogenic risk, future research on comorbidity is needed.

This commentary seeks to begin the journey of disentangling psychiatric disorder comorbidity with ADHD in detained adolescents. Understanding this comorbidity is critical, because persistent and comorbid psychiatric disorders complicate transition from adolescence to adulthood, already rather challenging for young people involved in the youth justice system,⁶⁷ many of whom are Aboriginal and from low-income backgrounds. Recent research found in a cohort study of 1829 US youths who were detained in a juvenile justice facility, 64% of males and 35% of females with a psychiatric disorder during detention had a psychiatric disorder 15 years later.⁶⁸ Behavioural disorders and substance use disorders were the most prevalent 15 years after detention.

VII Conclusion

ADHD is a psychiatric disorder which can negatively impact learning and development and have lifelong implications. ADHD is more prevalent in marginalised groups, particularly young offenders. International and Australian research has increased awareness about the variety of mental health problems that affect young offenders, including ADHD. However, an exploration of ADHD in young offenders, cannot be seen in isolation from current awareness that young offenders have high rates of mental illness generally, with high levels of comorbidity. This commentary outlined that young offenders additionally have high rates of re-offending, re-incarceration and premature mortality. It explored an analysis of ADHD and psychiatric disorder comorbidity

⁶⁵ Heval Özgen et al, 'International Consensus Statement for the Screening, Diagnosis and Treatment of Adolescents with Concurrent ADHD and Substance use Disorder' (2020) 26(4-5) *European Addiction Research* 223.

⁶⁶ Beaudry et al (n 24) 46-60.

⁶⁷ Linda A Teplin et al, 'Prevalence, Comorbidity, and Continuity of Psychiatric Disorders in a 15-Year Longitudinal Study of Youths Involved in the Juvenile Justice System' (2021) 175(7) *Journal of the American Medical Association Pediatrics* e205807.

⁶⁸ *Ibid.*

provided by data from the YPiCHS conducted in NSW in 2015. The findings demonstrate marked ADHD comorbidity with CD, substance dependence disorders and post-traumatic stress disorder. Thus, ADHD is just one part of the broader picture of the varied and comorbid psychiatric health of young people in custody.

With the backdrop of current understanding of the psychiatric and physical health of detained adolescents, strategic health interventions for young people interacting with the NSW criminal justice system by JHFMHN were described. This included adolescent court diversion; custodial mental health and drug and alcohol screening, assessment and treatment; and post-release health support. Increased understanding of ADHD and comorbid psychiatric disorders in young people involved with the criminal justice system, may inform improved and novel methods and modes of prevention, intervention and practice to improve outcomes for this vulnerable population of young people.