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A Practitioner's Perspective Concerning the Links between Attention Deficit Hyperactivity Disorder (ADHD) and the Criminal Justice System

PHILLIP ANDERTON*

Abstract

This expert commentary examines the links between Attention Deficit Hyperactivity Disorder (ADHD) and the criminal justice system from a practitioner's unique perspective. Having served as a senior police officer where my interest in these subjects grew, to now being the managing director of the United Kingdom's largest specialist ADHD clinic, this examination turns the current debate on its head. Shifting from 'more needs to be done' through to 'this is how we can do more', the commentary concludes that we know what is wrong; we can identify the people we need to help; and hence, we need to rise up and break the systemic cycle of failure for people with ADHD and keep them in the health system rather than allowing them to fall into the criminal justice system. This analysis is based on academic research, real world-evidence and clinical experience.

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I Overview

In 2007, I published a book entitled *The Tipping Points: What Professionals Should Recognise as the Social Impact of ADHD (The Tipping Points)*.¹ The book was the culmination of a number of years' work connecting the dots between ADHD and the criminal justice system. The hypothesis that started this work was based upon the observation that there was a link between poorly managed or misdiagnosed ADHD and people entering the criminal justice system ('CJS').² I believed then, as I do now, that the hypothesis is proven, the links are made, and the facts continue to startle. Yet change is far too slow – progress appears to be absent – so an imperative arises to explore further what is necessary to bring about the required change. This commentary therefore revisits the hypothesis of *The Tipping Points*, capturing the argument for change made in 2007, but refining it in the discussion that follows.

In 2007, there was a naivety about how change could be brought about, there was a hope for investment that never materialised and there was a slim chance that a senior police officer from Lancashire in England could make the much sought-after difference. Macro level change did not materialise and now it is time to revisit the data with a new lens. There is still hope and there is still a slim chance for necessary change to occur. This new lens is provided through my own clinical findings at ADHD 360 Clinic,³ the United Kingdom's largest specialist ADHD clinic. ADHD 360 Clinic is treating 2000 patients for ADHD and assesses 210 people suspected of having ADHD a month. This perspective of 'real world evidence' is facilitating a new outlook and also, hopefully, providing new opportunities for progress.

II ADHD and Criminal Behaviour

In 2009, Dr Suzy Young, a leading scholar and practitioner in ADHD, published further commentary regarding her findings from research into ADHD conducted in an Aberdeen Prison in the UK.⁴ In her article, she stated that '24% ... of the prisoners met DCS [DSM 4 (Diagnostic and Statistical Manual of Mental Disorders) checklist of symptoms] criteria

¹ Phillip Anderton, *The Tipping Points: What Professionals Should Recognise as the Social Impact of ADHD* (The National Attention Deficit Disorder Information and Support Service (ADDISS), 2007).

² Ibid.

³ ADHD 360 Limited, St James Building, Manchester, England.

⁴ Susan Young et al, 'Attention Deficit Hyperactivity Disorder and Critical Incidents in a Scottish Prison Population' (2009) 46(3) *Personality and Individual Differences* 265. For more recent data, see Susan Young et al, 'Overview of Offenders with Attention Deficit Hyperactivity Disorder' in Jane M McCarthy, Regi T Alexander and Eddie Chaplin (eds), *Forensic Aspects of Neurodevelopmental Disorders: A Clinician's Guide* (Cambridge University Press, 2023) 34-47.

for childhood ADHD'.⁵ Not long after that publication, I was fortunate to be in conversation with Dr Young to discuss her research in the cell complex of a London Metropolitan Police Service custody suite, where her findings were similar to our data of around 25% of offenders with ADHD.⁶ These figures create a need to explore the types of crime and criminal behaviour that are sensitised to ADHD, and to uncover any causal links between them. This exploration is informed by Barkley's significant and highly respected longitudinal studies conducted in Milwaukee in the United States,⁷ and particularly Barkley's 1997 publication 'ADHD and the Nature of Self-Control'⁸ which confirmed that ADHD is a risk factor for crime and risk-taking behaviour leading to a reduction in life expectancy. Furthermore, Barkley's study reported an increased prevalence of most crime types – but especially theft, assault, arson and robbery – between the control group and the ADHD group.⁹ Similarly, Sam Goldstein reported in 2008 that property theft, substance abuse and arrest rates are positively linked to ADHD.¹⁰ Later studies have found similar prevalence rates in relation to imprisoned inmates (that is, around 25%) but a slightly higher prevalence rate among youth offender detainees (that is, between 33% to 41%).¹¹ Thus, I contend that it is time to conclude this debate, confirm the hypothesis, and move on. It is now well-established that ADHD – if untreated, poorly treated, or mis-managed – has a causal link to the conduct of criminal behaviour. The debate, and the focus of future research, should therefore move forward to the next critical examination: *what are the pathways into the criminal justice system for people with ADHD?*

In 2005, I was asked at a conference about the social implications of ADHD, and whether ADHD is a disorder of the lower classes. As a senior police officer at the time, I was horrified to be put on the spot to answer such questions, imagining my answer making the newspaper headlines the next day. In more recent times, however, the answers to

⁵ Young 'Attention Deficit Hyperactivity Disorder and Critical Incidents in a Scottish Prison Population' (n 4) 265.

⁶ Discussions between Dr Phillip Anderton and Dr Susan Young.

⁷ Russell A Barkley, *ADHD and the Nature of Self Control* (Guildford Press, 1997).

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ Sam Goldstein, 'ADHD and Implications for the Criminal Justice System' *Mental Health Matters* (February 18, 2009).

¹¹ 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. See also John Tully, 'Management of ADHD in Prisoners - Evidence Gaps and Reasons for Caution' (2022) 13 *Frontiers in Psychiatry* 1; Susan Young et al, 'A Meta-Analysis of the Prevalence of Attention Deficit Hyperactivity Disorder in Incarcerated Populations' (2015) 45(2) *Psychological Medicine* 247. See further Corey J Lane and Mark D Chong, 'A Hard Pill to Swallow: The Need to Identify and Treat ADHD to Reduce Sufferers' Potential Involvement in the Criminal Justice System' (2019) 25 *James Cook University Law Review* 119.

those and similar questions flow with greater ease. For example, Dr Paul McCardle (a Lead Consultant in Child and Adolescent Psychiatry based in the Northeast of England) and I have discussed the implications of ADHD from a sociological, almost anthropological, perspective.¹² These discussions have concluded that:

- the ‘new’ absence of physical industry, such as coal mining, ship building etc in today’s society has left a gap in the skills profile for all of society to find meaningful work;
- the absence of walking or cycling to and from school has left an exercise gap, and thus a dopamine gap, in everyday school life;
- the move towards facilitative education, rather than more traditional and more controlling styles of education has resulted in the nature of discipline changing within schools; and
- the educational shift, especially in further education, away from skills to academia requires a competence that not everyone can adequately meet.

Overall, our resolution and conclusion are that as society has changed, so has the available ‘fit’ for people with ADHD, and this has exacerbated their struggles, especially in education.

III ADHD and Educational Outcomes

People with ADHD are far more likely to fail to achieve their potential throughout their education journey, and for this reason, poorer educational outcomes may be the most important economic consequence of ADHD.¹³ This experience for people with ADHD extends to the fact that teachers tend to look less favourably on students with ADHD.¹⁴ My own clinical work (working in practice in the ADHD 360 Clinic) reveals a number of schools of thought regarding education and ADHD. For example:

- A mistaken old-fashioned ‘myth’ about ADHD is the requirement for emotional dysregulation. In a school setting, many (probably far too many) teachers are not accepting of the presence of ADHD if the child is not considered to be naughty. Schools challenge a Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR)-based diagnosis if a child ‘is a dream to

¹² Discussions between Dr Phillip Anderton and Dr Paul McCardle.

¹³ Russell A Barkley, ‘Major Life Activity and Health Outcomes Associated with Attention-Deficit/Hyperactivity Disorder’ (2002) 63(12) *Journal of Clinical Psychiatry* 10; Brooke Streeter and Joseph Sadek, ‘Developmental Risk, Adversity Experiences and ADHD Clinical Profiles: A Naturalistic Exploratory Study’ (2022) 12 *Brain Sciences* 919.

¹⁴ Daniel Eisenberg and Helen Schneider, ‘Perceptions of Academic Skills of Children Diagnosed with ADHD’ (2007) 10(4) *Journal of Attention Disorder* 390. More generally, see David J Franz et al, ‘The Influence of Diagnostic Labels on the Evaluation of Students: A Multilevel Meta-Analysis’ (2023) 35 *Educational Psychology Review* 17.

teach'. What we as clinicians see, however, is a frustrated child, a child working so hard not to misbehave that when they finish with their classes and return to the relative safety of their home, they are so frustrated and tired that they let loose and misbehave there.

- Too many of our patients are failing to meet their potential, and therefore becoming disenfranchised with the education system because they 'do well enough', present no behavioural problems, and do not get identified as possibly having a focus and concentration issue. We clinicians then notice failure at key stages of their academic journey, usually around examinations at age 16, and later at 18, their pre-university selection stage.

Manifestations of unrealised potential, such as not moving into higher education, leave young people with ADHD vulnerable and often without a modern-day purpose. As one patient stated at the ADHD 360 Clinic in 2019: 'I am a grade A conversationalist but a grade C in exams, why is this?'¹⁵

Where clinicians do observe 'naughtiness' in children with ADHD, we examine the underlying reasons for that behaviour. Recent clinical assessments have revealed the following insights from patients:

- 'If I misbehave in class just before I am asked a difficult question, which I have no hope of answering as I don't know what's going on, I am not making a fool of myself in front of my mates. I am, in fact, looked on as a bit of a disruptive hero.'¹⁶
- 'Whenever I have lost track of the lesson and I think I am about to be caught out, I ask to go for a wee. My teacher has asked my parents if I have a 'wee-wee' problem, but I am just frightened.'¹⁷

Clinicians are therefore able to identify many barriers to a successful educational outcome for people with ADHD, which will inevitably frustrate opportunities for them in the job market. To that end, Fletcher and Wolfe confirmed the link between ADHD and deleterious human capital outcomes (eg, poor grades, being suspended or expelled, and undergoing fewer years in school).¹⁸ The negative economic consequences (eg, employability, ability to secure better paying jobs, etc) that flow from such poor academic outcomes appear to be axiomatic. Consequently, I contend that society tends to offer less diversity in employment for those who have ADHD, as well as less

¹⁵ Clinical Notes of Dr Phillip Anderton, October 2019.

¹⁶ Clinical Notes of Dr Phillip Anderton, May 2020.

¹⁷ Clinical Notes of Dr Phillip Anderton, December 2019.

¹⁸ Jason Fletcher and Barbara Wolfe, 'Child Mental Health and Human Capital Accumulation: The Case of ADHD Revisited' (2008) 27(3) *Journal of Health Economics* 794; Martina Vňuková et al, 'Childhood School Performance in Adults Diagnosed with Attention-Deficit/Hyperactivity Disorder' (2023) 27(3) *Journal of Attention Disorders* 307.

opportunity for their educational potential to be fulfilled, creating a direct causational link between educational results and poorer social outcomes for people with ADHD.

IV ADHD and Substance Abuse

I have been fortunate to work in the area of substance abuse and ADHD with Dr Tim Wilens, the Chief of the Division of Child and Adolescent Psychiatry and Co-director of the Center for Addiction Medicine at the Massachusetts General Hospital. The science here is very clear and well published.¹⁹ Deficits in chemicals in the pre-frontal cortex, not least of which is dopamine, lead to impairment. One way to overcome the deficit and impairment is to adjust the balance with chemicals, such as medicine or other substances.²⁰ Wilens and Morrison confirmed that within communities with Substance Use Disorder (SUD), there is a significantly higher proportion of people with ADHD.²¹ Wilens and Spencer also found that in addition to a higher prevalence between people with SUD and ADHD, there is a far quicker addictive journey from smoking, to cannabis, and thereafter to much more dangerous drugs, such as cocaine.²²

In 2007, I was working as a senior police officer with Sergeant Steve Brown. As our work continued together, Steve's role changed and he found himself working in the custody suite of a police station in East Lancashire, in the UK. The custody suite is a legally provided and governed facility to house arrested members of the public whilst further evidence is being gathered in relation to their alleged offending. Steve's role afforded us a tremendous opportunity to informally discuss with the custody detainees the impact that ADHD and the use of illicit substances had on their lives.

These informal discussions, whilst acknowledged as not constituting academic research, nevertheless provided a real-world evidence-base

¹⁹ See eg, Courtney A Zulauf et al, 'The Complicated Relationship Between Attention Deficit/Hyperactivity Disorder and Substance Use Disorders' (2004) 16 *Current Psychiatry Report* 436; Theresa Wimberley et al, 'Genetic Liability to ADHD and Substance Use Disorders in Individuals with ADHD' (2019) 115(7) *Addiction* 1368; Esme Fuller-Thomson, Danielle A Lewis and Senyo Agbeyaka, 'Attention-Deficit/Hyperactivity Disorder and Alcohol and Other Substance Use Disorders in Young Adulthood: Findings from a Canadian Nationally Representative Survey' (2022) 57(3) *Alcohol and Alcoholism* 385; Susan Young et al, 'Identification and Treatment of Individuals with Attention-Deficit/Hyperactivity Disorder and Substance Use Disorder: An Expert Consensus Statement' (2023) 13(3) *World Journal of Psychiatry* 84.

²⁰ Daria Taubin, Julia C Wilson and Timothy E Wilens, 'ADHD and Substance Use Disorders in Young People: Considerations for Evaluation, Diagnosis and Pharmacotherapy' (2022) 31(3) *Child and Adolescent Psychiatric Clinics of North America* 515.

²¹ Timothy E Wilens and Nicholas R Morrison, 'The Intersection of Attention-Deficit/Hyperactivity Disorder and Substance Abuse' (2022) 24(4) *Current Opinion Psychiatry* 280.

²² Timothy E Wilens and Thomas J Spencer, 'Understanding Attention-Deficit/Hyperactivity Disorder from Childhood to Adulthood' (2010) 122(5) *Postgraduate Medicine* 97.

which assisted in forming our perspectives about such issues. For example:

- Prisoner 'A', a 25-year-old male, was in custody for theft but was an acknowledged cocaine user. Presenting with ADHD symptoms to Steve, an informal interview took place as the prisoner was given his evening meal. 'When my mates take smack, they go off on one high, partying. Me, I can sit down and watch Corry [a UK soap opera on television]. It's the only time I can, other times I am all over the place and can't follow the story.'²³
- Prisoner 'B', a male under 30, discussed how 'coke helps slow the tumble dryer in my head down a bit so I can get things done, like cooking a meal.'²⁴

The unlawful taking of substances is, of course, a crime in most societies, but it is arguable that the taking of such drugs is a form of self-medication (as described above by 'A' and 'B').

In their analysis of two longitudinal studies involving boys and girls aged between 6 and 18, Wilens and colleagues noted that their findings:

... partially support the hypothesis indicating evidence of self-medication in ADHD individuals, with more than one-third of older adolescents and young adults reporting self-medication of either mood (majority) or sleep (minority) with cigarettes, alcohol, or other drugs of abuse.²⁵

Bordoloi, Chandrashekar and Yarasi have also pointed out that 'ADHD and methamphetamine use disorder [are] ... a common comorbidity' and that 'self-medication seems to be a possible link between ADHD and methamphetamine use'.²⁶ In a recent 2022 study conducted by Stueber and Cuttler, it was revealed that:

... significantly more people reported that acute cannabis intoxication improves symptoms of hyperactivity, impulsivity, restlessness, and mental frustration than those who reported that it worsens or has no effects on those symptoms.²⁷

In addition to this apparent criminalising of potentially 'self-medicating' conduct, an ADHD 360 Clinic patient, however, seemed to

²³ Personal Notes of Dr Phillip Anderton.

²⁴ Ibid.

²⁵ Timothy E Wilens et al, 'Do Individuals with ADHD Self-Medicate with Cigarettes and Substances of Abuse? Results from a Controlled Family Study of ADHD' (2007) 16 *The American Journal on Addictions* 14, 18.

²⁶ Meelie Bordoloi, Geetha Chandrashekar and Naveen Yarasi, 'ADHD in Adults and its Relation with Methamphetamine Use: National Data' (2019) 6 *Current Developmental Disorders Reports* 224, 226.

²⁷ Amanda Stueber and Carrie Cuttler, 'Self-Reported Effects of Cannabis on ADHD Symptoms, ADHD Medication Side Effects and ADHD-Related Executive Dysfunction' (2022) 26(6) *Journal of Attention Disorders* 942, 950.

have pushed the envelope further. A bright teenage male, with a home life that was privileged, had become a frequent cannabis user, to the point where in the words of his mother, 'he is destroying his life, and ours'.²⁸ When this was discussed with him at the Clinic, he expressed a different perspective to that of 'self-medication'. According to him:

Look, I hate school, and I am not doing well. I can buy and sell cannabis easily and I make good money. Yeah, it's a risk, but I am happy. I am not judged for being thick at school, I am with friends and I am making a packet.²⁹

This boy's entrepreneurial flair was evident, but he had a dangerous capability to ignore the risks involved in such deviant/criminal activity and lacked an ability to assess how this could negatively affect his future.

The problem, therefore, is this: How do we address such ostensibly criminal behaviour perpetrated by people who are negatively impacted by their ADHD? In my opinion, this issue is further exacerbated because traditional forms of programs to change behaviour in relation to substance abuse do not work for people with ADHD, and this then places an egregious burden on providers of treatment and care to break the recidivistic cycle for people with ADHD. In fact, at the ADHD 360 Clinic we have seen numerous patients struggling with addiction, itself contrary to the law, and yet possessing a strong need and desire to get 'clean'. The impact of the absence of programs that assist with an acceptance of ADHD is, therefore, profound. The common medical practice that requires a patient with ADHD to be 'clean' for 12 weeks before any treatment can commence medically for their ADHD is also a concern. This policy makes no allowances for the need for (self) medication and precludes a person with combined ADHD and SUD from receiving adequate treatment. A 2020 case study from the ADHD 360 Clinic patient files outlines what can be done through 'brave' clinical practice:

The patient, aged 27, was referred to the clinic by his mother. The patient was buying amphetamine off the streets to aid his focus and concentration to allow him to complete his PhD studies. Worried about his unlawful behaviour, and his persistent lack of focus and inattentiveness, she referred and accompanied him to the clinic. His motivation to change his lifestyle was weak, and discussions took place, before, during and after, his ADHD assessment as to the need for change before medical treatment could commence. When confronted by his ADHD diagnosis, this young man resolved to change. Weekly drugs screening whilst titrating his medication, coupled with extremely effective parental involvement (ie his mother), led to this young man not only becoming 'drug free' but also completing his

²⁸ Clinical notes of Dr Phillip Anderton, October 2019.

²⁹ Ibid.

PhD and publishing his papers globally. He remains to this day, substance free, in control of his ADHD, and his mother is more relaxed.³⁰

When substance abuse is understood and recognised as a pathway into crime for people with ADHD, changes in clinical practice can be made – changes that afford people with ADHD and SUD a greater chance to succeed.

V ADHD and Driving Outcomes

A less-debated issue, but one that is just as important to the wellbeing and safety of society, concerns the links between driving standards and ADHD. When first researching this as a senior police officer, I was critically questioned by a high ranking and very senior officer, who, in essence, required me to 'make the case' and justify why so much time was spent researching the relationship between ADHD and driving. I responded as follows:

5% of the driving population have ADHD. In our county, that puts 75,000 drivers on our roads that are significantly more impulsive, inattentive and hyperactive than the norm in our society. I think that's a problem.³¹

I was fortunate to spend time with another outstanding scholar - Professor Daniel Cox of the University of Virginia - during the 2000s. At the time, Cox (together with Professor Russell Barkley) was working extensively with driving simulators to draw out causational links between ADHD and poor driving. Importantly, and perhaps unusually for academic research, he had also published papers with solutions that significantly reduced the risk of accidents and law breaking.³²

I was also fortunate to work with Dr Lawrence Jerome from Ontario, Canada, who found that:

[t]he greater prevalence of motor vehicle collisions among ADHD patients was first described in follow-up studies of childhood ADHD and has since been confirmed by other researchers. Adults with ADHD who have been characterized as impulsive, fast drivers with attention problems are also prone to aggressive driving and so-called 'road rage'.³³

Perhaps unsurprisingly, Barkley and Cox found that longer acting medication gave a safer profile for accident and traffic offences within the ADHD driving community than immediate release medication.³⁴ Barkley and Cox advocated for clinicians to:

³⁰ Ibid.

³¹ Personal Discussions between Dr Phillip Anderton and a Senior Police Officer in 2004.

³² Russell A Barkley and Daniel Cox, 'A Review of Driving Risks and Impairments Associated with ADHD and the Effects of Stimulant Medication on Driving Performance' (2007) 38(1) *Journal of Safety Research* 113.

³³ Laurence Jerome, 'ADHD and Driving Safety' (2003) 169(1) *Canadian Medical Association Journal* 16.

³⁴ Barkley and Cox (n 32).

... educate parents/care givers about the increased risk of adverse outcomes among untreated individuals with ADHD and the role of medication in potentially improving driving performance.³⁵

This may sound simplistic in its nature, and yet the manifestation of these words has had a lasting impact upon clinical practice within the ADHD 360 Clinic. However, simply medicating ADHD patients will not be enough. Most medications for ADHD have an efficacy profile, and at some stage most 'wear off' within the patient's waking day. Clinicians need to understand, accommodate, and educate drivers, especially young drivers, about this medication profile. Driving when such medication has worn off will significantly increase their risk of being seriously injured or injuring others. In this regard, research has shown us that people with ADHD are:

- 'almost fourfold' more likely 'of being involved in motor vehicle crashes' as compared to drivers from a control group;³⁶
- 'nearly four times as likely to have been involved as a driver in a crash that resulted in bodily injuries' as compared to drivers from a control group;³⁷ and
- 'four times as likely to have been at fault in such crashes and had more such crashes in which they were at fault' as compared to drivers from a control group.³⁸

Needless to say, education in this area is very much required. As a then serving police officer, and working with Associate Professor Marlene Snyder, formerly from the Institute of Family and Neighbourhood Life at Clemson University, I published a short, bulleted list in the form of a clinical handout, that focused on raising parents' awareness of and attention to these matters. Refreshed in 2020 under the ADHD 360 Clinic banner, this document builds on Barkley and Cox's work, and aims to reduce the number of driving accidents.³⁹

The clinical handout makes 10 recommendations, the most relevant of which to this discussion is number 6:

Research has shown that ADHD behaviours can be significantly improved with medication use. Some of the known benefits include an increase in attention span and concentration. Individuals who have been prescribed medication should only drive within the time limits of the particular

³⁵ Ibid.

³⁶ Russell A Barkley et al, 'Driving-Related Risks and Outcomes of Attention Deficit Hyperactivity Disorder in Adolescents and Young Adults: A 3 to 5 Year Follow-Up Survey' (1993) 92(2) *Pediatrics* 212, 217-18.

³⁷ Russell A Barkley, Kevin R Murphy and Denise Kwasnik, 'Motor Vehicle Driving Competencies and Risks in Teens and Young Adults with Attention Deficit Hyperactivity Disorder' (1992) 98(6) *Pediatrics* 1089, 1092.

³⁸ Barkley et al (n 36).

³⁹ Phillip Anderton, '10 Safe Driving Tips – For Parents with Young People with ADHD' (2020).

medication they are taking. Do you know what they are for your child's medication?⁴⁰

A clinical case study from 2021 brings this recommendation to life:

A male patient aged 18 years, was beginning his driving career. He is a very good medical historian and can tell when his medication is assisting him or when it is wearing off. Past that point, he struggles to see the on/off benefits in a given moment. He is prescribed Dexamphetamine, three times daily, with expected times to take his medication of 0800, 1200 and 1600 hours. The dose taken at 1600 hours would be expected to tail off at around 1900 hours. This means that, if he is driving after 1900 hours, he would be unmedicated and potentially at risk.⁴¹ As an experiment – completely uncontrolled and perhaps lacking in scientific rigour – the author travelled a journey with the patient at 1830 hours, and again at 2030 hours on the same day. From personal observation, the difference in his driving performance was stark, and it required a change of driver as a safety intervention. Acceleration was aggressive, cornering lost its fluid smooth nature and braking for hazards was late. The debrief of this experience for the patient drilled into him and his parents, but especially him as an inexperienced driver, that he needs to be fully medicated to drive safely. He now alters his medicine timings to accommodate his driving requirements, usually working to a dose regiment of 10:00 hours, 14:00 hours and then 18:00 hours with a 'hard stop' of driving at 21:00 hours.⁴²

VI ADHD and Aggression

A final point, to be made here about pathways into the criminal justice system for people with undiagnosed, unmanaged or poorly medically treated ADHD, relates to emotional dysregulation. Emotional impulse emerges from the hyperactive nature of ADHD, coupled with impulsivity. Koole, Van Dillen and Sheppes state that the self-regulation of emotions can be conceptualised:

... as a cybernetic control process that consists of two main components. First, there is a monitoring process, which compares the individual's current state with a desired state. Second, there is an operating system that reduces any discrepancies between these two states ... Thus, when people engage in emotion regulation, they may compare their current emotional state to a desired emotional state and take appropriate steps to bring their current emotional state closer to the desired emotional state.⁴³

Thus, self-regulation is, in effect, the ability to control our behaviour when faced with the presence of external stimuli. Barkley takes this definition further and asserts that emotional impulsiveness is linked to

⁴⁰ Ibid.

⁴¹ Barkley and Cox (n 32).

⁴² Clinical notes of Dr Phillip Anderton, October 2020.

⁴³ Sander L Koole, Lotte F Van Dillen and Gal Sheppes, 'The Self-Regulation of Emotion' in Kathleen D Vohs and Roy F Baumeister (eds), *Handbook of Self-Regulation: Research, Theory and Applications* (Guildford Press, 2nd ed, 2011) 22-40, 28.

poor inhibition, which within a person with ADHD, relates to their low tolerance for being frustrated, and hence, their propensity to become angry and to express their ‘raw’ emotions without consideration to others.⁴⁴ Emotional functions (EF) are commonly discussed in relation to outcomes in behaviour emerging from ADHD. Brown⁴⁵ and Barkley⁴⁶ both list the core EF elements that are components of ADHD and include references to self-restraint/inhibition. As discussed in the DSM over many iterations, some people with ADHD have difficulty controlling their emotions, and hence may exhibit patterns of hostility, anger, defiance, stubbornness, low frustration tolerance and resistance to authority (usually parental).⁴⁷ Upon reflection, I can now see with clarity that many of the offenders I arrested as a police officer for anti-social behaviour, fighting, and assaults, probably had difficulty controlling their emotions and most certainly resisted the authority of a young police officer. This causes me to reflect: ‘if I knew then what I know now ...’.

Experience tells us that ADHD contributes greatly to the presence of oppositional behaviour, and a presence of hyperactivity and impulsivity confirms the logic in this belief. My colleague Lisa Mangle, the clinical director for ADHD 360 Clinic, has an explanation for why young children with ADHD often regulate their behaviour at school but then ‘kick off’ when they get home from school: ‘We all have a tolerance, and we can all ‘lose it’. What’s important to understand is how ADHD can affect this. Imagine your tolerance is the gap between a high jump bar and the ground. On different days, as a result of what’s gone on previously, that gap changes up and down. Imagine though, if you have had a week, a day, even a lifetime of not understanding yourself, not being understood by those around you, the teachers, the parents, the assistants at school. How high is your tolerance ‘high jump’ bar now? There is a little gap but not much, and your child has tried to hold it all together, tried to be good at school, then they get home to where they feel safe to just ‘be’, and it all kicks off. The bar is flung to one side and the pressure kettle erupts.’⁴⁸

⁴⁴ Russell A Barkley, *ADHD and the Nature of Self-Control* (The Guilford Press, 1997).

⁴⁵ Thomas E Brown and Jeanne M Landgraf, ‘Improvements in Executive Function Correlate with Enhanced Performance and Functioning and Health-Related Quality of Life: Evidence from 2 Large, Double-Blind, Randomized, Placebo-Controlled Trials in ADHD’ (2010) 122(5) *Postgraduate Medicine Volume* 42.

⁴⁶ Russell A Barkley, *The Barkley Deficits in Executive Functioning Scale: Children and Adolescents (BDEFS-CA)*. (Guilford Press, 2012).

⁴⁷ DSM 4/5/ and 5 TR, American Psychiatric Association (2022).

⁴⁸ Discussions between Dr Phillip Anderton and Ms Lisa Mangle, October 2022.

Thus, as noted by Wojciechowski, there are various reasons why people with ADHD, and in particular juveniles, may be more prone to exhibiting violent conduct.⁴⁹ For example:

[i]mpulsivity is a major defining feature of ADHD and would appear to be the main characteristic of the disorder, which contributes to increased propensity for violent offending When faced with provocative situations, the impulsivity associated with ADHD predisposes sufferers to reactive aggressive behavior when instigated⁵⁰

Other potential reasons for those with ADHD to exhibit violent conduct include the possibility that:

ADHD may also function to increase risk for violence because of the impact that the high impulsivity characteristic of the disorder has on other deviant behavior. ADHD sufferers also have a high risk for suffering from comorbid substance use disorders Substance use, especially problematic levels of use, has been consistently identified as a risk factor for engagement in violence The use of substances, like alcohol, can further lower inhibition and self-control, which leads to increased risk for violent behavior in provocative situations⁵¹

Consequently, the scientific crossover from school life to work, driving, as well as drinking and socialising as an adult, allows us to further understand the links between ADHD and the lack of emotional control. Sadly, that prevalence is the reality as to how and why a number of people with ADHD tend to breach the criminal law by fighting, swearing, arguing, driving recklessly, exhibiting road rage, and so on.

VII Conclusions

This commentary has attempted to construct a picture – a painting of pathways, risks and incidents that can lead a person with ADHD – a person that is undiagnosed, unmanaged or poorly medically treated, to enter the criminal justice system. It has been said many times that having ADHD is not an excuse for such deviant or criminal behaviour, but it offers nevertheless a valid explanation. The ADHD 360 Clinic has recently been commissioned by the UK's National Health Service to provide therapeutic services across Manchester. Already we are finding many potential patients, who were left fallow on a 5-year waiting list and are now incarcerated for petty crimes. Unfortunately, when the relevant prison health providers were contacted about these ADHD patients, our clinic was informed that they would not be providing them with any diagnostic and treatment services 'because it

⁴⁹ Thomas W Wojciechowski, 'The Role of ADHD in Predicting the Development of Violent Behavior Among Juvenile Offenders: Participation Versus Frequency' (2021) 36(1-2) *Journal of Interpersonal Violence* 625.

⁵⁰ Ibid 628-29.

⁵¹ Ibid 629.

was not within their contract to do so'. These 'prisoners' (who, in my opinion should actually be considered as 'patients') were therefore systemically denied the opportunity to resolve their ADHD health issues and maximise their opportunities to be rehabilitated and reintegrated into society, thus increasing the likelihood of greater harm occurring to them. For example, James, Lai and Dahl published findings that confirm the correlation between ADHD and suicidal behaviours, an expression that encompasses self-harm, suicide ideation, attempts and complete suicides.⁵² Bushe and Savill have also warned that:

the risk of suicide associated with ADHD must not be underestimated. A recent birth cohort study reported that 1.9% of an ADHD cohort (mean age diagnosis 10 years) were deceased (all causes including suicide) at follow-up (mean age 27 years), with the standardised mortality ratio for suicide as an individual cause of death elevated 4.83 (95% CI 1.14–20.46) when compared with a control cohort. A recent editorial also confirms the view that ADHD is associated with elevated risk for not only suicide related behaviours but also suicide and advises screening for suicide attempts even in younger populations with ADHD⁵³

Although the UK *Suicide Act* of 1961 abolished the crime of suicide,⁵⁴ many may still feel that it is, nevertheless, a breach of morality. However, our values must surely place preventing such occurrences at the heart of our approach to better understanding and medically treating people with ADHD.

The responsibility lies with us – clinicians, officers of public services, teachers, employers, and so on – to review these facts. The responsibility is with us to change our behaviours to accommodate the people who have ADHD, and not to expect them to change to meet our expected norms. The time to 'prove the point' with research has passed us by. There is a plethora of excellent research and recommendations out there. Perhaps the issue of ADHD is even over-researched.

These are the modern times – the times for systemic change. The time for individuals to rise and take responsibility for such change. It is the time for the many diverse pathways into the criminal justice system for people with ADHD to be gated off – to be closed for good. In the UK, it costs about £2,000 to medically treat a patient with ADHD annually⁵⁵ but it costs the Government £43,751 to house a prisoner for

⁵² Anthony James, Fong Hwa Lai and Christian Dahl, 'Attention Deficit Hyperactivity Disorder and Suicide: A Review of Possible Associations' (2004) 110 *Acta Psychiatrica Scandinavica* 408.

⁵³ Chris J Bushe and Nicola C Savill, 'Suicide Related Events and Attention Deficit Hyperactivity Disorder Treatments in Children and Adolescents: A Meta-Analysis of Atomoxetine and Methylphenidate Comparator Clinical Trials' (2013) 7(1) *Child and Adolescent Psychiatry and Mental Health* 1. See also Natasha Brown et al, 'The Mediating Roles of Mental Health and Substance Use on Suicidal Behavior among Undergraduate Students with ADHD' (2022) 26(11) *Journal of Attention Disorders* 1437.

⁵⁴ *Suicide Act 1961* (UK).

⁵⁵ Clinical notes of Dr Phillip Anderton, September 2021.

1 year.⁵⁶ There are around 80,000 prisoners in the UK's secure estate, and if the leading statistics at the beginning of this commentary concerning prisoners diagnosed with ADHD are correct, around 25% of them may be in prison because they did not receive adequate treatment for their ADHD. Some basic mathematics reveals a saving per head of £41,751 per annum. If these savings were made, the potential funds that could be transferred from the justice budget to the health budget would be in the hundreds of millions of pounds.

⁵⁶ Ministry of Justice (UK), *Costs Per Place and Costs Per Prisoner by Individual Prison* (MoJ, 2020).