ADHD and the Justice System

The Benefits of Recognizing and Treating ADHD in Canadian Justice and Correction Systems

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CADDAC, a national not-for-profit organization that provides leadership in education, awareness and advocacy for Attention Deficit Hyperactivity Disorder (ADHD) organizations and individuals with ADHD across Canada, has developed this white paper to look at the potential benefits to Canadian society as well as individuals and their families impacted by ADHD by recognizing and treating ADHD within Canadian justice and correction systems.

It is our sincere hope that this paper will not only increase the awareness and understanding of ADHD within these systems, but also assist with the implementation of ADHD assessment, diagnosis and treatment within all areas of the Canadian criminal justice system.

This paper has been shared with government ministries and a variety of stakeholders within the justice system. After October 1st 2016, this paper may be freely shared under a creative commons licence that allows for free distribution with restrictions on commercial use, modification or removal of CADDAC's name or logo.

The Benefits of Recognizing and Treating ADHD in Canadian Justice and Correction Systems

Key Messages

Incident rates of ADHD seen in the correctional population are 5 times that of adults, and ten times that of youth in the general population.[1] A study that aggregated the results of 42 previous worldwide papers found that the generally accepted prevalence rate of ADHD within jail systems is 26.1%.[1]

Coexisting mental health disorders as well as rates of suicidality and substance abuse are much higher in those with ADHD than other inmates.[2]

ADHD symptoms of impulsivity and executive functioning impairment result in self-regulation impairment that put those with ADHD are at a much higher risk of becoming involved with the criminal justice system.[3]

These impairments along with difficulty remaining focused and attentive through police questioning and the court and custodial process make those with ADHD more vulnerable through the entire justice system process.[4]

Unfortunately, due to limited awareness and appropriate screening services ADHD still remains underdiagnosed and under treated especially in this population – one study found that only 2 out of 30 inmates with symptoms were diagnosed in childhood.[3]

Studies show that treatment for substance abuse and suicidality is much more effective when co-existing ADHD has been treated first.[5]

A recent US study estimated the cost to society to be $2-$4 billion dollars per year.[6] If we extrapolate the study's finding into Canadian numbers the societal costs would be $200-400 million dollars per year.

Building awareness of ADHD and implementing screening and assessment procedures within the justice system would increase the chances that those with ADHD could be flagged and receive appropriate treatment.

Newer ADHD treatments are now available that significantly decrease the potential of diversion and abuse.[7, 8]

Early detection and treatment of ADHD would reduce costs to the justice system by:

- Improving disruptive behaviour and aggression inmates while incarcerated with the added benefit of reducing additional time on their sentences.[7]
- Scientific evidence establishes that treatment for ADHD reduces substance abuse,[9] reduces criminal behaviour by 32-41%,[10] and reduces recidivism.[11]

- We should be assessing and treating youth in corrections as soon as possible, as this may help to prevent the trajectory into adult offending.
- The reduction in criminal behaviour and improved overall rehabilitation of these inmates will increase their and their family's quality of life, reduce costs to the justice system, benefit the communities they return to and Canadian society in general.[4]

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The Benefits of Recognizing and Treating ADHD in Canadian Justice and Correction Systems

In recent years more attention has been given to the overrepresentation of those with mental health issues in our criminal justice systems and their needs. However, Attention Deficit Hyperactivity Disorder (ADHD) is rarely, if ever, mentioned in papers or discussions leading one to believe that it is a disorder of little consequence within the justice system. This paper will discuss why ADHD should be of particular interest to the Canadian justice system and how, if given the attention it deserves, it could have a significant impact in reducing recidivism, decreasing disruption in prison systems, increasing the impact of rehabilitation programs and changing the trajectory of young offenders.

Introduction to ADHD

ADHD, the most common childhood mental health disorder worldwide is characterized by difficulty regulating attention, hyperactivity and impulsivity. It is a significant medical disorder that can lead to emotional, social, academic and occupational difficulties resulting in long term societal costs. [2, 3, 12] For most children affected, ADHD continues as a chronic life-long disorder. General conservative worldwide accepted prevalence rates are around 5% for children and 4% for adults, with many studies quoting higher rates. [5, 12, 13, 14, 15]

In addition to the three core symptoms individuals with ADHD are often impaired in "executive functioning".[16] Deficits in executive functioning negatively affect planning, organizing, managing time, working memory and overall behavioural and emotional regulation.[16, 17] Individuals with ADHD are commonly more easily frustrated, have more difficulty dealing with that frustration and are more likely to inappropriately express their anger when frustrated.[12, 5] These associated features often lead to behavioural disorders in childhood as shown by the high co-occurrence of ADHD with oppositional defiant disorder (40-60%), conduct disorder (20-30%) and substance use disorder (>50%).[2] Further complicating matters, 80%-100% of adults with ADHD also suffer from a coexisting psychiatric disorder.[12, 16, 18]

ADHD within the Justice System

While ADHD is thought to affect only 4% of adults,[15, 16, 19] a recent comprehensive study that aggregated the results of 42 previous worldwide papers found that the generally accepted prevalence rate of ADHD within jail systems should be 26.1%.[19] This same study found that the incident rate of ADHD seen in the correctional population is five times that of adults in the general population and ten times greater for youth.[19] It should be noted that the Canadian study in this aggregate actually had a higher ADHD prevalence rate of 33%.[20]

It must be strongly noted that while serious attention should be paid to the higher prevalence rates, it certainly does not mean that those diagnosed will necessarily become involved with the justice system. However, since ADHD symptoms of impulsivity and executive functioning impairment result in self-regulation impairment, it is not surprising that individuals with ADHD are at a much higher risk of becoming involved with the criminal justice system.[17]

Youth with ADHD are of particular concern because they begin offending earlier[512] and will therefore exact a greater lifetime toll on the justice system, if left untreated. Their aggressive behaviour often leads to a denial of early parole and increased incarceration time making them more costly to deal with.[21] Offences of the ADHD youth tend to be more impulsive and reactive in nature,[5] which makes sense if we consider their poor organization and planning skills, typical of impaired executive functioning skills. Their cognitive deficits may also explain why they are often more easily apprehended.[21] These impairments along with difficulty remaining focused and attentive through police questioning and the court and custodial process make these youth more vulnerable through the entire jus tice system process.[22]

Research has also shown that adults referred with ADHD symptoms when interrogated more often responded with “I don’t know” than others and were more eager to comply with requests to avoid confrontation.[23] They are more likely to make false confessions, usually because they want to leave the police station, are protecting somebody else, are under the influence of drugs, or are unable to cope with police pressure.[23] Since youth are particularly susceptible to suggestions by authority figures,[22] Young, in her 2011 paper surmised that these traits may be the cause for increased rates of false confession in those with ADHD.[21] Missing a diagnosis or misdiagnosing ADHD in youth is of particular concerns as treatment could reduce

symptoms, increase behaviour and emotional control and improve social skills. With early diagnosis and intervention there is potential to change the path of an adolescent who has become involved with the justice system.[21] While a focus on youth is paramount, identifying ADHD at any time throughout the lifespan of an offender could have significant benefits to the offender, their family and society as well as the justice system.

Unfortunately, due to limited awareness and appropriate screening services ADHD still remains underdiagnosed and under treated especially in this population. Even in the non-correctional population, symptoms of ADHD such as mood instability, restlessness and inner tension are often mistaken for comorbid disorders such as depression and anxiety and are inappropriately treated.[12] Symptoms of impulsivity, hyperactivity, inattention, disorganization and impairments in social skills and time management are often interpreted as laziness, rudeness, defiance or just being 'bad". One study found that only two out of thirty inmates with ADHD symptoms had been diagnosed in childhood.[17] This is hugely problematic if we consider the strong connection between childhood ADHD, criminal activity and subsequent incarceration resulting in significant socioeconomic costs.[24] A recent US study estimated the cost to society to be $2-$4 billion dollars per year.[24] If we extrapolate the study's finding into Canadian numbers the societal costs would be $200-400 million dollars per year.

Challenges within the Prison System

Once in the system, individuals with ADHD, whether youth or adult, constitute a challenge to correctional services due to impairments such as impulsivity, hyperactivity, mood instability, low frustration tolerance and a general disorganized and often more chaotic lifestyle.[25] Individuals with ADHD symptoms were found to be six times more likely to engage in disruptive incidents within a correctional institution than non-ADHD individuals, even after controlling for the comorbidity of antisocial personality disorder.[25] More than one study found that as ADHD symptom severity increases, the risk for disruptive behaviour and aggressive symptoms also increases.[5, 26] As mentioned earlier, while there are an increased number of incidents it is important to note that aggression due to ADHD is generally impulsive and reactive in nature,[5, 27] resulting from feelings of frustration and reaction to a perceived threat, limit

setting, and/or environmental cues. [5] One can hardly imagine a more frustrating, threatening and challenging environment for someone with ADHD than a prison.

Additional challenges occur within the system due to high rates of coexisting disorders. Mental disorders are 21.5% more prevalent amongst ADHD inmates than non-ADHD inmates.[18] These high rates of comorbid substance abuse and mood/anxiety disorders compound the debilitating nature of ADHD[12] and further increase the risk of criminality[12, 17, 18] and disruptive behaviour once incarcerated. Studies of incarcerated individuals with ADHD found that 60-100% suffer from substance abuse disorder,[17, 18] while suicidality occurs in 67% of inmates.[18] This is compared to a 52% prevalence rate of substance abuse disorder and a 48% prevalence rate of suicidality amongst the non-ADHD incarcerated population.[18] This is of particular concern because dealing with substance use and suicidality are amongst the key elements of Corrections Canada's Mental Health Strategy[28], however ADHD is not.

Screening for ADHD within the Justice System

Despite the significant socioeconomic costs of the correctional services system and the high rates of ADHD occurrence in inmates there are currently no federal guidelines for the screening of ADHD anywhere within the justice system. ADHD was not included among the list of mental health disorders in the 2014-2015 Office of the Correctional Investigator annual report.[29] Once incarcerated assessment and treatment only become more of a challenge. While complicated, assessing for ADHD within the correctional service would still be of tremendous benefit to correctional facilities and society at large, through more harmonious inmate-inmate/inmate-staff interactions, less antisocial disruptive behaviour and reduced sentences lengths due to less time tacked on for disruptive behaviour.[13] Increased attention regulation as well as a decrease in other ADHD symptoms would allow these inmates to participate and successfully complete rehabilitation programs.[13] Additionally, effective treatment of ADHD has been shown to improve success rates of treating common comorbid disorders such as depression, anxiety and the notoriously difficult to treat, Substance Abuse Disorder.[13, 30] The incarcerated individuals themselves will personally benefit from improved self-esteem, social interactions and academic outcomes.[31] This would be especially important for youth offenders.

In addition, medication treatment for ADHD has been shown to reduce recidivism rates by 30%.[12]

Several challenges for the screening and diagnosis of ADHD exist, particularly in this environment, but possibly the greatest challenge is the sheer lack of knowledge about this disorder. Psychiatric assessments in prison systems most often focus on mental illnesses that are seen as more serious than ADHD, such as substance abuse and suicidality, with ADHD being overlooked or seen as only a secondary condition.[12] Focusing only on the seemingly more serious issues of Substance Abuse Disorder and depression (leading to suicidality) is in fact working against successful treatment, as treatment of these comorbid conditions is more likely to fail if ADHD is not treated as well. [5] By improving the success of comorbid disorder management, screening for ADHD will lead to more efficient use of resources and better clinical outcomes.[12]

One of the requirements for an ADHD diagnosis is evidence of functional impairment in day-to-day activities. This can be difficult in a prison if the inmate is not participating in activities that enable functioning to be assessed.[32] Since assessment also requires third party corroboration of impairment, especially if faking or feigning is suspected, another issue is the fact that ADHD symptoms of inattention, impulsivity, restlessness and irritability are most often not perceived by prison staff as being due to a treatable disorder but rather just “bad behaviour”.[13] To complicate matters, inmates themselves are often unaware of their own symptoms, or may attempt to avoid help even if they are aware due to the stigma around mental disorders.[13] This may be why researchers found that studies using screening for assessment had a significantly higher prevalence rate of 43.3% while studies using a diagnostic clinical interview, which involved questioning an inmate about their symptoms, had a prevalence rate of only 25.5%.[19] In addition, screeners will require education on how to recognize inmates that may be drug seeking, although newer long acting medications appear to be more difficult to abuse.[13, 33]

ADHD Medication Treatment within the Prison System

A landmark 2012 study using OROS-MPH medication in a Swedish prison and its subsequent 3-year follow up study was particularly promising, as the participants were in a high-security prison for long-term inmates convicted almost exclusively of violent or drug-related offenses.[12] Despite a high rate of very complex comorbidities, these individuals successfully attended treatment and education programs, saw significant improvements in quality of life, and those that have been released are mostly employed and have not offended or lapsed into substance abuse.[12] While this was a small study and a larger examination for high-security inmates is required, it is corroborated by many other studies suggesting that long-term treatment of ADHD will lead to better correctional outcomes.[31]

Stimulant medications are considered first line therapy for ADHD individuals, but immediate release stimulant medications can be abused by crushing and snorting the product to achieve a "high," which has previously made the use of these medications for the treatment of incarcerated ADHD individuals with high rates of substance use disorders a challenge. [5, 34] In his 2013 paper reviewing the issues of misuse, abuse and diversion of ADHD stimulants, Frank Lopez discusses the advantages of two particular new extended release medications. Since the desired "high" is directly linked to a fast rate of absorption into the body,[35] a slower and more controlled rate of absorption decreases the "likeability" of a substance for abuse.[36]

A significantly lower abuse potential exists for a growing number of newer long acting stimulant medications which are more difficult to physically and/or biochemically reduce to their base molecules thereby nearly eliminating the likelihood they can be readily abused by way of nasal insufflation and/or injection. For example, the pro-drug lisdexamfetamine dimesylate (Vyvanse) requires interaction over time with an enzyme thought to be present in the gut as well as on the surface of red blood cells in order for the active dextroamphetamine molecule to ultimately be released.[37] Therefore intranasal absorption of Vyvanse does not significantly raise blood concentration levels of the active dextroamphetamine molecule until a considerable amount of time has passed. This greatly diminishes its positive reinforcing properties.[38] Further reducing the possibility of misuse and diversion, Vyvanse capsules may be opened and their contents diluted in water and consumed in front of staff with no apparent

decrease in its effectiveness.[37] The case against stimulants in corrections services has been made forcefully in the past. Concerns primarily focused on the fear of introducing potentially abusable medications into an environment with a high prevalence of substance use disorder and the subsequent risk of misuse and diversion.[34] While this is certainly a concern and these medications need to be closely monitored, careful and consistent implementation of risk management strategies such as (but not limited to) rigorous monitoring, limiting quantities by dispensing daily, enforcing clear policies that delineate medication discontinuation policies for those offenders caught misusing and/or diverting, the benefits of providing appropriate treatment to those who are amenable, motivated, and responsible far exceed the risks. The implementation of methadone treatment programs within correctional facilities appears to establish that it is possible, with appropriate resources, to provide medication with a high risk for abuse within correctional facilities.[39] Furthermore, the most recent evidence suggests that treating ADHD with these medications in correctional services in fact may reduce the prevalence of substance misuse, as treatment for substance abuse disorder is much more effective when ADHD symptoms are under control.[30]

While the Scott at el protocol deems non-stimulant medication to be first line and stimulants second line, and CADDAC has included it in the protocol below, individual's needs as well as situations within prison systems may allow for the use of stimulants as first line treatment options. In fact, Vyvanse is the only official ADHD medication on the Corrections Canada Formulary.

Treatment Protocol

Our protocol essentially is the protocol outlined by Scott et al in their paper published in 2016. However, we are proposing that the conception of ADHD screening and assessment be expanded to create a comprehensive system addressing the beginning of the offender's contact with the criminal justice system until the end.[13] As Young has suggested, it is important we have an "integrated care pathway that follows the offender 'journey' from initial police contact to eventual resettlement."[40]

This is particularly important given the high rates of youth ADHD and the evidence that suggests that untreated ADHD leads to higher crime rates[41]: if we are able to flag young offenders with ADHD early on and provide appropriate and comprehensive treatment, we may be able to change their trajectory from repeated criminal offending. Educating those coming in contact with youth when they first become involved with the law on ADHD would improve the likelihood of ADHD being diagnosed in offenders much earlier. In fact, by building awareness within the entire justice system on how ADHD increases offending and by educating lawyers, courts, judges and probation officers on how to recognize those displaying ADHD impairments within their individual domains, we would increase the chances that those with ADHD could be flagged and receive appropriate treatment. And research has shown us that treating ADHD decreases rates of reoffending.[12]

Table - ADHD Treatment Protocol

	Recommendations
Screening for ADHD	• Upon first contact with the Justice system every individual should be screened for the identification of mental issues including ADHD. • This screening could be done in police custody, by mental health staff at court, or at an absolute minimum, by corrections staff upon *first contact* with correctional services. • Screening should include not only ADHD but also other comorbidities.
Assessment/ Diagnosis	• This should occur after screening has identified ADHD symptoms or the potential of ADHD symptoms that the inmate might not be fully aware of. • Psychiatric Assessment should occur after one month of entry into corrections, so that functional impairment within the prison system can properly assessed, and so that detoxification can occur, in the case of substance abuse.
Behavioural Intervention	• Behaviour intervention can consist of programs targeting core ADHD symptoms such as distractibility, impulsivity, deficits in planning and organizing, problem solving, emotional stability. • Reasoning and Rehabilitation (R&R) is one particular program that addresses antisocial behaviour and other functional impairments by improving emotional self-management, social skills and critical reasoning. This program has had success in being used with ADHD inmates and has been shown to reduce recidivism. • Priority should be given to behavioural interventions that target SUD because of the high levels of this comorbidity in the prison setting.

Pharmacotherapy	• First-line pharmacotherapy with non-stimulants atomoxetine, venlaxafine, bupropion. • Second-line pharmacotherapy with psychostimulants - "vyvanse" (lisdexamfetamine dimesylate) or "concerta" (osmotic-release oral system methylphenidate) if it is included in the Corrections Canada formulary. • These should be taken under observation. • Consider liquid/soluble formulations to reduce the risk of diversion.
Follow-up	• Continued treatment requires documentation of objective improvement. • This should be an ongoing review. • Comorbidities should be treated concurrently. • Medical care should be arranged after release to ensure that inmates continue to receive treatment, as required, once their sentence is served and they are resettled into the general public.

In conclusion

Early detection and treatment of ADHD would reduce costs to the justice system by reducing recidivism rates,[12] improving the behaviour of inmates, thereby reducing additional time on their sentences, and possibly increasing the effectiveness of rehabilitation efforts.[15] As we now have scientific evidence that establishes that treatment for ADHD reduces substance abuse,[30] reduces criminal behaviour by 32-41%,[41] and reduces recidivism by 30%,[12] we should be assessing and treating youth in corrections as soon as possible, as this may help to prevent the trajectory into adult offending. The reduction in criminal behaviour and improved overall rehabilitation of these inmates will increase their and their family's quality of life, reduce costs to the justice system, and benefit the communities they return to and Canadian society in general.[13]

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