International Journal of Risk and Recovery
EST. 2017

ORIGINAL ARTICLE

Point Prevalence of Adults with Intellectual Developmental Disorder in Forensic Psychiatric Inpatient Services in Ontario, Canada

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A significant minority of people with Intellectual Developmental Disorder (IDD) may come into contact with the criminal justice system as a result of criminal behaviours. Many of these individuals, who are deemed Unfit to stand trial or Not Criminally Responsible (NCR), are transferred to forensic psychiatric facilities. Although the perception is that the prevalence of individuals with IDD in forensic facilities is increasing, the exact number was unclear, prompting us to conduct a provisional survey of forensic facilities across the province of Ontario to determine (i) point prevalence of IDD and (ii) the characteristics of such individuals. Detainees with IDD were identified in forensic mental health facilities across the Province of Ontario and information was collected regarding their demographics, characteristics of their index offence, and length of stay. We calculated a point prevalence (December 2012) of 19% and identified that individuals with IDD stayed, on average, longer in forensic psychiatric facilities than their non-IDD peers. We argue that there is a need for a working group to address forensic care pathways for adults with IDD.

Key words

Intellectual Developmental Disorder (IDD), forensic care, prevalence, care pathways

Introduction

The recognition that individuals with intellectual developmental disorder (IDD) may come into contact with the criminal justice system for alleged offences has a long history, originating in the eugenics movement in the early part of the last century [1] and continuing with a program that excluded such individuals from society, most notably by placing them in long stay institutions. Fortunately, in response to Government driven national frame-works of care that emerged 40 years or so ago, these institutions have since closed in many countries, and a more objective research agenda has emerged. A body of research does indicate that individuals with lower IQs, including those with IDD (defined below), are overrepresented in the criminal justice system although the exact prevalence is far from clear, with significant variation in estimates ranging between 2% and 40% [2]. This discrepancy between studies is the result of different methodological confounds, including diagnostic practice, definitions, criminal justice policy, and pathways of care. A more reasonable estimate probably sits somewhere between 2% and 12.5% of all convicted offenders detained in prison [3,4]. Consequently, although the numbers are unlikely to be very large in population terms, a pressing concern is with the provision of services for such individuals.

The argument for a specialist service for this population is based on their unique clinical profiles and treatment needs [5,6]. The availability of specialist services for this population, both inpatient and community based, varies significantly. In Canada, in the absence of a Government driven National Framework of care for such individuals, services are geographically inconsistent, and driven more by local expertise and interest rather than a top-down approach that is ideally warranted. Within existing intellectual disability services, there is generally a limited capacity to provide the rehabilitation needs of patients who come

into contact with the criminal justice system. As well, following the closure of long stay institutions, such services are now largely community based with limited access to inpatient care.

In the absence of specialist services or a clear pathway of care, navigating the criminal justice system for such individuals is fraught with uncertainty. In many cases, such individuals will come to the attention of general forensic services and consequently end up under their care with little in the way of specialist IDD service input. There are significant problems associated with this. One particular issue that arises is the charging of IDD patients, who by virtue of their IDD will be permanently unfit to stand trial [6], and, in essence, their IDD will "imprison" them in the forensic psychiatry system for an indeterminate time without ever being convicted for the offence charged against them.

The purpose of the current study was to evaluate the forensic needs of individuals with IDD in Canada, starting at the Provincial level. Most fundamentally, we were interested in identifying the prevalence of individuals with IDD detained in forensic psychiatry services across the province of Ontario, and their characteristics in terms of (i) demographics, (ii) the nature of their offences and (iii) average length of stay.

Methods

In 2011 we secured funding from the Ministry of Health in Ontario to undertake a retrospective chart review study examining the prevalence of IDD in forensic units across the Province. We obtained Research Ethics Board approval from each of the ten forensic psychiatric facilities in Ontario (Table 1). Each facility offers secure and longer-term rehabilitative inpatient treatment and accepts male and female referrals from the criminal justice system. Each facility also has beds for short-term court ordered assessment and treatment services; however patients receiving these time limited assessment services were excluded from our sample.

We asked each psychiatrist responsible for inpatient beds in each unit to identify individuals under their care between the months of January and December 2012 who had an existing diagnosis of IDD (or synonymously, 'mental retardation' or 'intellectual disability'), or who, in their opinion, may fulfill the following criteria: (1) an IQ less than 70 and (2) a documented diagnosis of IDD. For each individual identified, the case notes were reviewed by one of the authors (IF), using a data collection pro-forma.

Diagnosis

For each individual identified, information was sought in their clinical records that would confirm a diagnosis of IDD. In current DSM-5 [7] and recent DSM-IV [8] classification systems, IDD (or 'mental retardation' in DSM-IV) is defined according to the presence of a significant limitation of cognitive functioning, defined as a recorded IQ of less than 70, associated impairment in adaptive skills, and onset before the age of 18 years. Cases were designated 'definite IDD' if evidence of an IQ of less than 70 with associated impairment of adaptive function as evidenced by performance on standardized assessments was available. Further, cases were identified as 'probable IDD' if there was evidence in the medical records of a recorded diagnosis, by a psychologist or psychiatrist, of Mental Retardation (MR) or Intellectual Disability (DSM-5, and its terminology IDD was not yet available in 2012).

Demographics

Information was collected pertaining to demographic characteristics of the detainees with IDD, including gender and age distributions, ethnicity, employment status, and housing circumstances at the time of arrest.

Index Offenses

Information pertaining to the index offense was obtained principally from Ontario Review Board (ORB) reports. Each index offense was categorized as violent or non-violent according to the Cormier-Lang system [9] and coded according to the categories in the Criminal Code of

Canada. Index offenses such as: parole and mandatory supervision violations; breach of probation, recognizance, or bail; failure to appear; escapes and unlawfully at large are not captured in the Cormier-Lang system and hence these index offenses were presented as a separate "breaches/violations" category. For each index offense against a person, we collected information pertaining to the victim.

Results

In total, 124 detainees with possible IDD were identified across all units (Figure 1). Four were excluded due to limited documented information supporting the diagnosis, and two were excluded as they had an acquired brain injury post 18 years of age. Of the remaining 118 detainees, 29 (23.4%) had definite IDD according to DSM-5 criteria, whilst 89 (71.7%) had probable IDD based on documented evidence of an MR or IDD diagnosis, but with no available supporting evidence from more formal neuropsychological testing. For the purpose of our study, which was interested in casting the net wide for service planning reasons, we grouped the definite and probable categories together. During the one year period of retrospective case note analysis, there were 12 discharges and 14 admissions to inpatient care in 2012. In December 2012, there were 106 detainees remaining in forensic facilities with IDD.

Point prevalence

Point prevalence of IDD was calculated based on total inpatient forensic beds across the Province, which was 588 in 2012. Using both figures for January and December 2012 and a median figure of 112 for total number of cases, results in a point prevalence estimate of 19%. Therefore, approximately 1 in 5 forensic inpatient beds across the Province of Ontario are occupied by an individual with an IDD.

Demographics

The detainees with IDD (Table 2) comprised 99 males (84%) and 19 females (16%). All age groups were represented, although detainees with IDD were predominantly younger, with 79 individuals aged 35 years or less. Detainees were predominantly White (N=75, 64%), Black (N=17, 14%), and Aboriginal (N=16, 13.5%) with ethnicities forming the majority of the remainder. Most detainees with IDD were unemployed at the time of their index offence (N=112, 95%), with 89 (75%) on the Ontario Disability Plan. Living circumstances at the time of the index offence varied between detainees, with approximately equal proportions living in the family home (N=35, 30%) and in supported residential accommodation (N=31, 26%), and significant minorities living either on their own (N=17, 14.5%), as a hospital inpatient (N=17, 14.5%), or in temporary accommodation (N=18, 15%).

Table 1: Participating Forensic Centres

Forensic Psychiatry Programs in Ontario- Treatment and Rehabilitation Beds in 2012

Royal Ottawa Healthcare Group	Brockville, ON	56
Royal Ottawa Healthcare Group	Ottawa, ON	22
Providence Continuing Care	Kingston, ON	25
North Bay Regional Health Centre	North Bay, ON	42
Centre for Addiction and Mental Health	Toronto, ON	145
Waypoint Centre for Mental Health Care	Penetanguishene, ON	134
Ontario Shores for Mental Health Sciences	Whitby, ON	60
Thunder Bay Regional Health Centre	Thunder Bay, ON	12
St. Joseph's Healthcare Hamilton	Hamilton, ON	28
St. Joseph's Healthcare St. Thomas	St. Thomas, ON	64
	Total	588

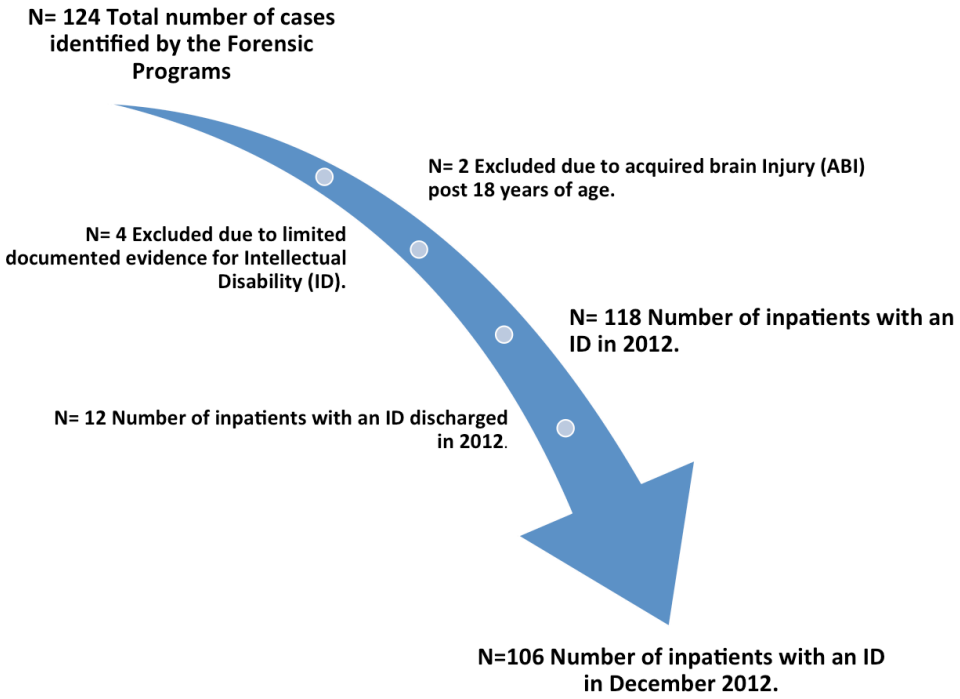

Figure 1: Identification of cases with IDD in secure forensic services in Ontario

Offences

A range of offences were coded using the Cormier Lang Index (Figure 2), with the most common categories being assault, uttering threats and breach and failure to comply offenses. In contrast, offences involving possession of illegal substances were low. When offences were further categorized into 'physical assault' (n=127), 'verbal assault' (n=75), 'sexual assault' (n=33) and 'non-interpersonal', 218 of 322 offences (67.7%) were interpersonal, including 152 (47.2%) that involved physical violence towards others (Figure 2). Further, when interpersonal offences were analyzed according to the alleged victims, 136 (62.4%) were against a known person.

Length of Stay

Length of stay information was obtained from the Ontario Forensic Bed Registry (Table 3). The data in this registry are entered by a designated individual at each forensic psychiatric facility. Much variation was seen in length of stay between the different forensic psychiatry facilities. There was no pattern in terms of lengths of stay according to whether the detained person was NCR or Unfit. Detainees with IDD were more likely to be deemed NCR versus Unfit (two tailed Chi-squared p=0.001). When the figures were compared with those for the forensic population more generally, the average length of stay among detainees with IDD was notably longer, although we were unable to more formally generate figures for the effect size.

We also collected information pertaining to evidence of discharge planning during 2012. We reviewed ORB reports and looked for documentation indicating that the subject was on a wait list for community housing or whether there was documentation of service planning meetings with healthcare providers in the community. We found that 47% detainees with IDD had evidence of discharge planning documented in their ORB reports in 2012.

Discussion

The aim of this study was twofold: first, to generate a prevalence figure for adults with IDD detained in forensic psychiatry inpatient beds across the Province of Ontario between January and December 2012 and second, to describe the characteristics of such individuals. Our results indicated a point prevalence of 19%, and, as such, we conclude that approximately 1 in 5 inpatient forensic beds are occupied by individuals with IDD at any one time. We also compiled information regarding the nature of offences and disposition, and observed that aggression characterized the majority of offenses, with 1 in 2 offences involving physical aggression, often towards caregivers.

The association between IDD and an Unfit decision likely represents the dilemma of those IDD persons charged who will never become fit to stand trial and who may become trapped within the forensic system [10,11]. This contrasts with the majority of those found Unfit whose psychotic disorder will respond to treatment, and will then exit the forensic system (unless then found NCR). This is consistent with the significantly longer stays among the IDD group than their non-IDD counterparts in our study. Whilst we are not able to identify the exact reason for this, a combination of inadequate care in the community and therapeutic failure seems likely, as discussed subsequently. Moreover, if such individuals are staying longer, we project that the prevalence figure will rise over subsequent years.

One in five beds is a significant proportion of inpatient forensic mental health beds, compounded by the oftentimes long length of stay. It is unclear how these figures compare to other Canadian Provinces, and difficult to compare directly with international figures. In Ontario, a previous study [12] drew data from 9 provincial psychiatric hospitals between 1998 and 2003 as part of a larger mental health planning study, and estimated the number of inpatients with IDD and forensic needs. In total, 74 such adults were identified, making up 12.8% of the forensic inpatient population. Our own prevalence figure is therefore comparable to this.

Table 2: Summary of Demographics for cases with definite or probable IDD

Demographics	N=118 (%)
Gender	
Male	99 (84)
Female	19 (16)
Age (years)	
16-20 years	20 (17)
21-35 years	59 (50)
36-55 years	34 (29)
55+ years	5 (4)
Evidence of IDD	
1=IQ < 70	29 (23.4)
2=Diagnosis of IDD	89 (71.7)
Ethnicity	
White	75 (64)
Black	17 (14)
Chinese	3 (2.5)
South Asian	4 (3)
Arab/ West Asian	1 (1)
Aboriginal	16 (13.5)
No data	2 (2)
Education	
Not documented	62 (53)
up to grade 8	18 (15)
grade 9 to grade 13	38 (32)
Employment	
Unemployed	112 (95)
Supported Employment	3 (2.5)
Employed	2 (1.5)
No data	1 (1)
Income Source	
Self	5 (4)
Family	13 (11)
Ontario Disability Plan	89 (75)
Other Government Assistance	9 (8)
No Income	2 (2)
Housing	
Living alone	17 (14.5)
Living with Family	35 (30)
Group home	31 (26)
Hospital Inpatient	17 (14 .5)
no permanent housing	18 (15)
Grounds for detention	
ORB-NCR	71 (60)
ORB-Unfit	33 (28)
Mental Health Act	8 (7)
Voluntary / Informal	6 (5)

In contrast to the dearth of available data concerning the prevalence of IDD in forensic mental health care, a number of studies have concluded that people with intellectual vulnerabilities are over-represented throughout the criminal justice system, and, as such, may require a specialist service to correctly rehabilitate them and reduce risk of further criminal behaviour. In order to achieve this, multi-agency strategic planning groups at a local level are required. These would allow for the partnership of professionals in intellectual disability services, forensic services and the criminal justice system with the eventual formation of community specialist forensic intellectual disability teams to provide care [13]. The first step towards achieving this goal is to form a Working Party comprised of commissioners and providers of forensic and IDD health and social care.

Importantly, whilst the doctrine of social inclusion dictates that individuals with IDD should be able to access the same services as their non-IDD counterparts, if there is no equity in outcome (i.e. if they are unable to benefit from the services available that are designed to reduce risk), then the longer term result may simply be greater social exclusion. Aggressive and otherwise challenging behaviour among adults with IDD is often the result of the complex interaction between a variety of factors related to their IDD [14,15]. Whilst a psychiatric diagnosis may be an important component of this, other factors such as communication, wider cognitive vulnerabilities (including executive dysfunction, academic failure and difficulties with new learning), the oftentimes presence of Autism Spectrum Disorder or other neuro-developmental diagnoses (e.g. ADHD, Tourette's or tic disorders), medical comorbidity (for example epilepsy), and social vulnerability (poor employment opportunities, lack of a peer group) may each play a role in determining the final behavioural picture [15]. Consequently, the needs of this group may be quite different from the forensic psychiatry population more generally, and as such they may not directly benefit from the treatments on offer in such facilities.

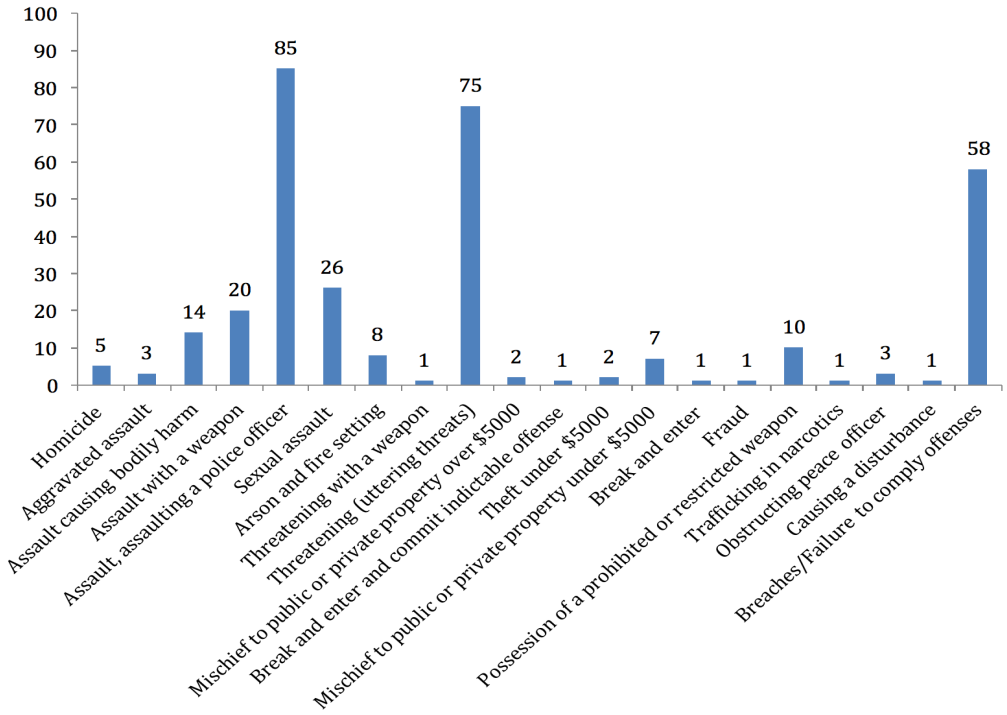

Figure 2: Index Offences categorized by Cormier-Lang scheme with number of detainees with IDD in each category

Table 3: Length of Stay (LOS) in days from Jan 1-Dec 31, 2012 - *No range provided by Provincial Forensic Bed Registry

Intellectual Disability (ID) Study	Average LOS (range)
ID-ORB-NCR (N=74)	339.08 (range 5-365 days)
ID-ORB-Unfit (N=36)	325.64 (range 12-365 days)
ID-Involuntary MHA (N=8)	319.88 (range 107-365 days)
ID-Voluntary (N=6)	358 (range 323-365 days)
Provincial Forensic Bed Registry	**Average LOS (*)**
ORB-NCR (N=256)	141
ORB-Unfit (N=54)	140
MHA (N=17)	65
Voluntary (N=65)	154

This current study has a number of important limitations, tempering caution in the interpretation of our results. For example, we did not directly measure IQ, and relied on information recorded in patients' medical records. Moreover, a diagnosis of IDD is only truly correct in light of additional evidence concerning associated impairments of adaptive function, something we did not directly measure nor obtain corroborating information for. The cross-sectional nature of our data collection also did not allow us to fully realize pathways into and out of forensic services, nor to capture an individual's total length of stay.

Conclusions

In conclusion, approximately 1 in 5 inpatient forensic beds are occupied by individuals with IDD at any one time. Aggression characterizes the majority of offenses, with caregivers often the victims. Furthermore, such individuals are, on average, detained for longer periods than the forensic population as a whole. There are, therefore a number of good reasons for strategic discussion at the commissioning level to decide on the most effective type of service provision for the IDD population in forensic psychiatric facilities.

Conflict of Interest: none

Acknowledgments: The authors would like to thank all the forensic units in the Province of Ontario who took part in this study.

Funding: The authors thank the Ministry of Health in Ontario, Canada for funding this project

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