


Forensic psychiatry services in Nunavut

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ABSTRACT

There is a paucity of research on forensic psychiatry patients from Nunavut, including no published data concerning the prevalence and characterisation of patients in this territory. The lack of basic information hinders the evaluation of services and establishing best practices. The current paper aims to characterise forensic psychiatry patients from Nunavut and further the understanding of the challenges in organising forensic psychiatry healthcare in Nunavut. A retrospective chart review design was used to examine individuals from Nunavut who are engaged with the Ontario forensic psychiatry system. The sample included all Unfit to Stand Trial (26.7%) and Not Criminally Responsible (73.3%) patients ($N = 15$) under the jurisdiction of the Nunavut Review Board in a one-year period. The average distance between the patient's place of residence in Nunavut and the Ontario facilities was 2,517 km. Overall, 26.7% were living in Nunavut, 60.0% remained in Ontario, and 13.3% resided in Alberta. Results are presented for sociodemographics, forensic status, personal and familial history, psychiatric and criminal history, diagnoses, index offence characteristics, treatment, assessment tools, and aggression. The prevalence and many characteristics of forensic psychiatry patients from Nunavut differ from the rest of Canada and have important implications for the delivery of services.

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Introduction

Nunavut is the largest geographical region in Canada, representing 20% of the country [1]. With a large land mass and remoteness, Nunavut has faced challenges in healthcare delivery and availability of services, often within the context of historical injustice and oppression, and with social disparities that persist today [2–4]. Nunavut has some of the highest rates of suicide and mental health issues across the country [4–8]. Previous literature has suggested that involvement with the criminal justice system is frequently an initial stop for individuals in Nunavut with mental disorders and/or those without access to the appropriate care [9,10].

Indeed, Nunavut has the highest proportion of individuals housed in correctional facilities compared to other territories and provinces in Canada. In the 2018–2019 year, the rate of Nunavummiut adults in custody was reported to be 667 per 100,000 compared to the national rate of 127 per 100,000 [11]. Notwithstanding the incontrovertible evidence that Indigenous persons are overrepresented in the Canadian criminal justice system, this incarcerated population has also been

found to have higher rates of mental disorders than the general population [9,11–13]. However, the rate of Indigenous persons in the Canadian forensic psychiatry system does not conform to this trend, as Indigenous Canadians are not overrepresented to the extent of their correctional counterparts [14–16]. There may be multiple factors that account for this. It may be due to the scarcity of available forensic psychiatry resources, lack of accessibility to the appropriate legal representation, as well as an underuse of the Not Criminally Responsible (NCR) or Unfit to Stand Trial (UST) defence during court proceedings, or when it is raised courts are less likely to render the verdict [14,16].

Currently, there is a paucity of research on forensic psychiatry patients from Nunavut, including no available published data concerning the prevalence and characterisation of such patients in this territory. The lack of basic information concerning forensic psychiatric patients in Nunavut hinders the evaluation of the services and establishing best practice, with potential implications for the delivery of mental health services in general. The current paper aims to describe the

characteristics of forensic psychiatry patients under the jurisdiction of the Nunavut Review Board (NRB) and further the understanding of the challenges in organising a forensic psychiatry healthcare system in Canada's north.

Nunavut

Nunavut was separated from the Northwest Territories in 1999 [17]. Reaching to the most northern parts of the country, Nunavut covers over 1,877,778 km of land [1]. The population of Nunavut is estimated to be 39,353, making it the second least populous province or territory in Canada and among the most sparsely settled regions in the world [18]. Iqaluit is the capital of Nunavut with a population of approximately 7,700 people [19]. Most regions in Nunavut have polar climates, with average winter temperatures in Iqaluit reaching -27°C and rising to 8°C in July [20]. For some northern islands, it can remain dark for 24 hours in the winter while the sun will never set during some of the summer months. There are approximately 25 communities in Nunavut, none of which are connected by roads, making simple transportation between them almost non-existent. In order to travel, Nunavummiut often take boats or airplanes. Nunavut also has the highest fertility rate and the youngest population in Canada with a median age of 24.7 [21]. The majority of Nunavut's population (85.0%) are Inuit [21]. The creation of Nunavut (or "Our Land" in Inuktitut) in 1999 was the last major change to Canada's geographic and political map [17,22]. This significant development enabled Inuit territory in which they were the majority [17]. It also allowed them to be self-governing, affording the Inuit to have a significant amount of political power and protection for themselves, how they live, their culture and traditions [17,23].

Healthcare service delivery

Nunavut has the highest government health expenditures per capita in Canada [21,24]. Despite this finding, on average, the territory reports a substantially worse health status than the rest of the country, including mental health [2,4,24,25]. Similar to many Arctic regions, Nunavut has faced challenges in establishing efficient mental healthcare systems for the sparsely populated region [2,4,26]. The remoteness of Arctic regions contributes to a scarcity of adequate infrastructure and lack of accessibility to healthcare resources and professionals [2,27,28]. Arctic regions must adapt the governance and organisation of their healthcare system to meet the challenges of having a dispersed

population, underdeveloped infrastructure, and harsh climates. Often this includes extending the roles of healthcare professionals that are not physicians, having physicians travel in from other regions, ensuring culturally appropriate care, using innovative technology strategies (e.g. telehealth care), and overcoming the impact of systemic risk factors and barriers to care [26,29].

Qikiqtani General Hospital, located in Iqaluit, is Nunavut's only hospital and has 35 acute care beds [2]. Nunavut's primary healthcare system relies mostly on nurses rather than physicians, especially in remote communities [29]. There are two other large health centres in the territory and mental healthcare is typically limited to staff at local health centres [2]. Consultations often take place with psychiatrists and other mental health professionals in southern provinces via telehealth [2,26]. Tele-mental health has been increasingly integrated into practice in the northern regions of Canada and is often available in health centres across Nunavut [2]. However, despite the concerning incidence of mental health disorders and suicide rate in Nunavut, there is no psychiatric hospital or dedicated psychiatric beds in the territory, and numerous communities still lack mental health workers [2,10]. Thus, access to physicians relies heavily on visits from physicians outside of Nunavut, who rely on air transport to travel to the region [2]. The reliability and sustainability of air transport is contingent on financial resources and the unpredictable climate. Alternatively, many individuals also have to travel to facilities in Ontario, Alberta, Manitoba, or the Northwest Territories for specialised or advanced care. Indeed, the most serious cases of mental disorders are often sent for treatment at facilities in southern Canada.

Mental health and criminal justice involvement

The lack of accessible mental health services has been described as contributing to many Nunavummiut with mental disorders coming into contact with the criminal justice system [9,10]. The overrepresentation of people with mental disorders in the criminal justice system is pervasive in Canada, and the issue seems to be acute for Canadian Inuit and other Indigenous offenders [9,30–32]. In Canada, there is a distinction between those who are considered mentally ill offenders compared to forensic psychiatric patients [33]. Mentally ill offenders are those in the correctional system who have a mental disorder. Often, they are treated within the correctional setting, but in some circumstances, they may be transferred and held in a psychiatric hospital under the Mental Health Act.

Contrarily, forensic psychiatric patients are persons who have been found NCR or UST, and consequently come under the jurisdiction of a provincial or territorial Review Board (RB). A court or lawyer from either legal side (i.e. Crown or Defence) may request an assessment of NCR or UST. An NCR verdict is rendered when the court determines that the accused suffered from a mental disorder at the time of the offence that rendered them incapable of understanding the nature or quality of the offence, or knowing that it was wrong [34]. A person is found UST when the court determines that the accused is unable to understand the nature or the object of proceedings, the possible consequences, or communicate with counsel on account of a mental disorder [34].

Although Nunavut's criminal courts engage in NCR and UST proceedings, they do not have the suitable and related services that are central to these matters [2]. The health centres or community resources in Nunavut typically do not accept referrals from the criminal courts. Arrangements are often made by the court to have southern forensic psychiatrists travel to Nunavut for court referrals and assessments. The absence of forensic psychiatrists makes assessments and treatment possibilities within the region challenging. Previous literature has demonstrated that NCR assessments are often delayed and out of custody assessments can take six months to a year [2]. The delay in assessments can leave individuals in custody at risk for spending more time waiting for an assessment than if they had been sentenced in the usual course [2]. Additionally, those waiting for an assessment outside of custody often lack the appropriate community support and may be vulnerable to reoffending [2].

The forensic psychiatry system

Individuals who are found NCR or UST come under the jurisdiction of a RB, mandated under the *Canadian Criminal Code*. Each province and territory have their own RB, including the NRB [34]. A RB typically includes at least one psychiatrist, one judge, and one other member. The NRB mandates that the third member should be a public member from Nunavut. However, due to the shortage of qualified psychiatrists and legal members in Nunavut, psychiatric and legal NRB members are typically from Ontario and Alberta. The RB meets not less than annually to review the conditions and dispositions of the patient under their jurisdiction [34]. The *Criminal Code* dictates that if an accused is to be detained at a hospital, it must be a designated

forensic psychiatry facility [34]. However, there is no such facility in Nunavut.

When a patient under the NRB has to be detained because they represent a significant threat to themselves or the safety of the public, that patient is placed at a hospital in southern Canada, typically Ontario. However, this has been cited as a significant source of stress for patients, which is potentially exacerbated by historical interactions with outside authorities [26]. Additionally, some individuals within Nunavut communities have reported that mental health treatment is viewed as synonymous with removal from the community [9]. Indeed, many individuals who come under the auspice of the NRB will be transferred to a forensic psychiatry facility in Ontario. In Canada, Inuit and other Indigenous persons represent 4.9% of the adult population; a stark difference from Nunavut's Inuit population [35]. An individual relocating from Nunavut – albeit not voluntarily – to a facility in southern Ontario may experience an array of situations that vary significantly from what they are accustomed to. Relocated individuals may feel a loss of culture, language, friends and family, and may experience socioeconomic inequalities.

Healthcare professionals in other regions may also not be knowledgeable about the culture of Nunavut or of Inuit. A lack of knowledge by practitioners about Indigenous populations, and differences in language and culture, have been cited as significant barriers to healthcare service [26]. Nurses who have moved to northern regions of Canada have reported a lack of preparedness for the stark contrast in culture [26]. However, outpatient treatment is available for forensic psychiatry patients in Nunavut. While the patient will be still under the jurisdiction of designated forensic psychiatry facilities outside of Nunavut, they can reside in their local communities once granted a conditional discharge order or the appropriate conditions by the NRB. Such patients will likely receive treatment from local health centres, but will still be managed from afar by the forensic psychiatric facility. However, reintegration back into their community may engender additional challenges for the individual and clinical team. It is important for healthcare professionals to familiarise themselves with the intersection of the law and healthcare issues that are unique to Nunavut [26]. A more holistic and context-relevant approach to healthcare service for individuals who are relocated to live in southern Canada for required services may increase successful patient outcomes and trajectories through the forensic psychiatry system.

Objectives

There is a paucity of research examining forensic psychiatry patients under the NRB. The absence of published data concerning the characterisation and prevalence of forensic psychiatry patients from Nunavut hinders the ability to establish services and best practices appropriate for this population. The objective of the current paper is to provide a representative description of the Nunavut forensic psychiatry patient population and further the understanding of barriers to developing forensic psychiatry healthcare services in Canada's Arctic regions.

Methods

Design

The current study used a retrospective chart review design to examine individuals from Nunavut who became involved with the forensic psychiatry system in Ontario. The sample included all ($N = 15$) UST or NCR patients under the jurisdiction of the NRB who had an annual hearing within a one-year period (2017–2018). The Principal Investigator received the annual hearing hospital reports from the NRB. The current project obtained ethical approval from the Hamilton Integrated Research Ethics Board (HiREB #10,552). NRB hospital reports are available in the public domain and waiver of consent was approved by HiREB.

Materials

NRB hospital reports

The NRB hospital report is a document prepared by the patient's clinical team at the forensic psychiatry facility responsible for them. Namely, this includes their attending physician, nursing staff, and allied health staff members. The report typically addresses the circumstances of admission, court orders, and the index offence(s). Information is often included about personal, psychiatric, and/or criminal history. In the review period, the clinical team will outline the patient's clinical progress and provide an opinion about risk and risk management strategies. Information regarding mental health stability, insight, adherence to treatment, medication, and notable incidents of behaviour (e.g. substance use, aggressive behaviour) are frequently reported. Recommendations about privileges, dispositions, and/or the reintegration of the patient into the community are provided. Each year, the present review period is added to the document with the past summaries.

Data collection

The coding form and coding manual were adapted from a larger study that examined annual RB hearing hospital reports of individuals under the jurisdiction of the Ontario Review Board (ORB) [36]. These materials were developed to extract information from RB hospital reports on variables known to be associated with offending behaviour (see Chaimowitz et al., 2021 for further information on coding procedures). The coding form includes sections on sociodemographics, family history and home configuration, adverse childhood experiences, psychiatric history, criminal history, index offence characteristics, aggressive incidents, and assessment tools. Categories that were coded using information relevant to the reporting period (2017–2018) included: forensic status, place of residence, diagnoses, treatment, and aggressive incidents. When information within categories was completely missing from the report, the information was coded as "unknown".

Analytic strategy

The current project analysed information by calculating frequency statistics and descriptives. No comparative analyses were carried out due to the small sample size. The normality of the distribution was assessed by histograms and the Shapiro-Wilk test. Mean (M) and standard deviation (SD) were used for data compiled with a normal distribution. Missing data were identified as unknown for categorical variables and included in the analysis. Missing data for continuous variables were excluded from the analysis.

Results

Sociodemographics

There were 13 males (86.7%) and 2 females (13.3%) in the sample. The average age at the time of the report was 35.53 ($SD = 10.17$). Majority of the sample were single, with no biological children, had a grade 8 level education, and were Indigenous (see Table 1). Employment history was described as intermittent for the majority of the sample, and most patients were unemployed at the time of the report. Most of the patients (93.3%) spoke English at the time of the report, although 60.0% spoke Inuktitut as their first language. The first language was unknown for 6 cases.

Place of residence

All patients were born in Canada and living in Nunavut before entering the forensic psychiatry system, with 40.0% having resided in Iqaluit. There were four

Table 1. Sociodemographic characteristics and family history of study population.

		n (%)
<i>Sociodemographic</i>		
Marital status		
	Single	10 (66.7)
	Common-Law/Married	1 (6.7)
	Separated/Divorced	4 (26.7)
Education		
	Up to grade 8	10 (66.7)
	Highschool	4 (26.7)
	Unknown	1 (6.7)
Employment History		
	Intermittent	14 (93.3)
	Never employed	1 (6.7)
Income		
	Welfare/Disability Support	12 (80.0)
	Employment	2 (13.3)
	Unknown	1 (6.7)
Offspring		
	Yes	4 (26.7)
	No	11 (73.3)
Race/Ethnicity		
	Indigenous	14 (93.3)
	Unknown	1 (6.7)
<i>Family History</i>		
Mental Illness		
	Yes	11 (73.3)
	No	2 (13.3)
	Unknown	2 (13.3)
Substance Use		
	Yes	8 (53.3)
	No	2 (13.3)
	Unknown	5 (53.3)
Criminal Record		
	Yes	5 (33.3)
	No	2 (13.3)
	Unknown	8 (53.3)

forensic psychiatry facilities that patients were designated to in Ontario. The average distance between the patient's place of residence before the index offence and the designated forensic psychiatry facilities in Ontario was 2,517 km. At the time of the report 26.7% were living in Nunavut, 60% remained in Ontario, and 13.3% resided in Alberta.

Forensic status

The average length of stay in the forensic psychiatry system at the time of the report was 80.87 months ($SD = 46.03$). The majority (73.3%) were NCR, 20.0% were permanently UST and 6.7% were UST. No patients in the sample had a previous UST or NCR verdict. More patients were under detention orders (60.0%) during the review period than conditional discharge orders (40.0%). Almost half of the sample (46.7%) were living in the community at the time of the report. All patients living in Nunavut in the reporting year were on conditional discharge orders. The recommended dispositions made by the hospital to the NRB in the reporting year were commonly for a detention order (66.7%). A recommendation of a conditional

discharge order was made for 20.0%, and absolute discharge orders were made in 13.3% of cases.

Family history and home configuration

About half of the sample lived with both of their biological parents at some point before the age of 16, and a third had lived with only one parent. Almost all patients lived with other family members at some point in childhood (see Table 2). Living in foster care or alone were less common. For those who experienced a change in their home configuration (46.7%), the average number of changes was 2.50 ($SD = 1.77$). The majority of patients had a family history of mental illness. A history of substances being used in the home was reported for about half of the cases. A family member with a criminal history was found for a third of the sample (see Table 1).

Adverse childhood experiences

A history of some form of childhood abuse was found for almost half of the sample including physical abuse (40.0%), sexual abuse (13.3%), and/or emotional/verbal abuse (13.3%). Over half of the sample experienced the absence of one or both parents and someone in the home abusing substances, followed by living with someone who had a mental disorder, and witnessing their mother being treated violently (see Table 2). Having an incarcerated family member in the household and a history of intergenerational abuse were less common. The mean number of adverse childhood experiences was 2.27 ($SD = 1.22$).

Table 2. Home configuration in childhood and adverse childhood experiences (N = 15).

	Yes n (%)	No n (%)
Home configuration		
Both biological parents	8 (53.3)	7 (46.7)
One biological parent	5 (33.3)	10 (66.7)
Other family members	14 (93.3)	1 (6.7)
Other unrelated individuals	0 (0)	15 (100.0)
Foster care ^a	2 (13.3)	13 (86.7)
Community group home	0 (0)	15 (100.0)
Alone	1 (6.7)	14 (93.3)
Other	2 (13.3)	13 (86.7)
Adverse childhood experiences		
Childhood abuse	7 (46.7)	8 (53.3)
Mother treated violently	6 (40.0)	9 (60.0)
Substance use in the home	9 (60.0)	6 (40.0)
Mental illness in the home	7 (46.7)	8 (53.3)
Absence of a parent	9 (60.0)	6 (40.0)
Incarcerated family member	1 (6.7)	14 (93.3)
Intergenerational abuse	1 (6.7)	14 (93.3)

^aFoster care was also considered an adverse childhood experience

Psychiatric history

Over half of the sample (60.0%) had a previous psychiatric hospitalisation before coming under the jurisdiction of the NRB. The mean number of previous admissions was 1.27 ($SD = 1.49$). The mean age at first diagnosis was 25.80 ($SD = 21.33$). The mean age at first psychiatric hospitalisation was 27.78 ($SD = 9.94$), with information unknown for 6 cases. The majority of patients (66.7%) had a history of alcohol and drug use, 13.3% had a history of only drug use, and 20.0% did not have a history of substance use. A history of being non-adherent with treatment (80.0%), incapable to consent to treatment, and/or being unresponsive to treatment (46.7%) was common.

Diagnoses

The most common primary diagnosis was Schizophrenia (66.7%), followed by Psychosis Not Otherwise Specified (13.3%), Intellectual Disability (13.3%) and Schizoaffective Disorder (6.7%). The majority (80.0%) had a comorbid diagnosis. The most common secondary diagnosis was Substance Use Disorder (53.3%), followed by Attention Deficit Hyperactivity Disorder (6.7%), Dementia/Cognitive Disorder (6.7%), Borderline Personality Disorder (6.7%) and Intellectual Disability (6.7%). The most common tertiary diagnosis was Substance Use Disorder (13.3%), followed by Personality Disorder (13.3%), and Traumatic Brain Injury (6.7%). Just over a quarter of the sample (26.7%) were reported to have traits of a personality disorder.

Criminal history

About a quarter of the patients (26.7%) had previously been incarcerated within a correctional institution before coming in contact with the forensic psychiatry system. Just less than half (40.0%) had previously been on a probation or parole order, and a quarter (26.7%) had a history of failing to comply with probation or parole provisions. Over half (60.0%) of the sample had a previous charge and half (53.3%) had a prior conviction. A history of general (46.7%) and violent (46.7%) charges were more common than sexual charges (13.3%), as were violent (46.7%) and general (40.0%) convictions compared to sexual convictions (13.3%).

Less than a quarter (20.0%) of patients committed offences while under the jurisdiction of the NRB.

Index offence

Majority (86.7%) of the sample had multiple offences for which they were given an UST or NCR verdict. The most serious offence committed by a patient was considered as their index offence.¹ Majority of index offences were violent (66.7%), followed by sexual (20.0%) and general offences (13.3%). Assaults were the most common index offence, including assault with a weapon (26.7%), aggravated assault (6.7%) and assault (6.7%). Other index offences included sexual assault (20.0%), utter threat (13.3%), attempted murder (6.7%), break and enter (6.7%), careless use of firearm (6.7%) and mischief (6.7%). Additionally, the majority of the sample (93.3%) were not intoxicated at the time of the offence, with information unknown in one case. About half (53.5%) of the index offences involved the use of a weapon, with information unknown in two cases.

Of the violent and sexual offences (86.7%), the number of female (53.8%) and male (46.2%) victims were relatively similar. The relationship with the victims of violent and sexual offences included acquaintances (30.8%), family members (23.1%), children (15.4%), partners (7.7%), police officers (7.7%), strangers (7.7%), and other (7.7%). Of the victims of violent and sexual offences, the majority (61.5%) did not have an injury or sustained a minor injury, 15.4% were treated and released, 7.7% were hospitalised, and information was unknown for 2 cases.

Treatment

At the time of the report, the majority (93.3%) of the patients were on medications, including 93.3% that were on antipsychotics, 20.0% on antidepressants, 20.0% on mood stabilisers, and 26.7% on anxiolytics, sedatives, hypnotics, and/or benzodiazepines. The majority of the patients were enrolled in cognitive remediation treatment (80.0%) and competency specific programmes (80.0%), followed by specific psychological treatment (53.3%), and group therapy (20.0%). The majority of the sample were reported to be adherent (86.7%) and responsive (93.3%) to treatment, although,

¹While we recognise that sexual offences are understood to be violent, the coding of index offences was based on the *Criminal Code* classification system which distinguishes between violent and sexual offences. In addition, the index offence classification, adapted from a previous study [36], was also based on the Cormier-Lang system, a commonly used framework for categorising criminal charges [36,41,62,63].

20.0% were reported to have been deemed incapable to consent to treatment.

Aggressive incidents

About three-quarters (73.3%) of the sample had a history of inpatient violence prior to the reporting year. A history of verbal aggression was the most common (66.7%), followed by aggression against objects (60.0%), physical aggression against others (60.0%), and inappropriate sexual behaviour (53.3%). A history of self-harm was reported for 46.7% of the patients. In the reporting year, 33.3% of the sample engaged in aggression that was verbal, 33.3% were physically aggressive against others, 33.3% displayed physical aggression against objects, and 13.3% displayed inappropriate sexual behaviour. There were no reports of self-harm in the reporting year.

Forensic assessment tools

The results from assessments tools were reported in the majority of hospital reports (86.7%). Results from the Historical Clinical Risk Management (HCR-20), which is a structured tool used for the assessment of violence risk, were the most commonly reported (80.0%) [37]. The mean of the available HCR-20 scores was 22.64 ($SD = 10.07$). Scores from the Psychopathy Checklist-Revised (PCL-R) were available for 60.0% of cases. The PCL-R is used for the assessment of psychopathy and has been found to be a robust, reliable, and moderate predictor of violence [38–40]. A score of 30 or above out of 40 on the PCL-R is the threshold that is indicative of individuals who are highly psychopathic [38]. The mean of the available scores in the current sample was 13.94 ($SD = 7.82$). Results from the Violent Risk Appraisal Guide (VRAG) were available for 20.0% of the sample. Scores on the VRAG are associated with nine risk categories (i.e. bins), each indicative of a known likelihood of violent recidivism in seven years, ranging from 0% at the lowest category (i.e. bin one), to 100% at the highest (i.e. bin nine) [41,42]. The available results in the sample included 1 patient in the 6th bin and 2 patients in the 7th bin. Results from sexual risk assessments were less common (13.3%).

Discussion

The current study sought to elucidate the characteristics of individuals under the jurisdiction of the NRB through reviewing annual hospital reports of patients supervised by forensic psychiatric facilities in Ontario, Canada. Many demographic characteristics compare

closely to previous literature on forensic psychiatry populations, including that most of the sample were male, single, and unemployed [36]. However, a lower level of education was found in the current sample than what is commonly observed, albeit consistent with the population of this territory [6].

The sample size of the current study highlights the discrepancy between individuals in Nunavut entering the forensic psychiatry system compared to the correctional system. Seeing as Nunavut has a higher rate of criminal justice involvement compared to the rest of the country, one would expect that the rate of forensic psychiatry involvement would also be comparatively high [11]. Indeed, the rate of forensic psychiatry system involvement was found to be relatively high compared to other provinces and territories, but it may be considered comparatively lower in contrast to the population of justice-involved individuals within the territory alone [11,14,16].

In consideration of the literature, the barriers to healthcare delivery and services in Nunavut may impact the prevalence of accused entering the forensic system. For instance, it is possible that forensic psychiatry services may be used as a proxy for civil psychiatric services. However, as outlined in our review of the literature, there is often a considerable delay in obtaining assessments which may act as a deterrent for their use during court proceedings [2]. While this paper provides a valuable contribution towards characterising forensic psychiatry patients from Nunavut, further research is needed to investigate justice-involved individuals who are granted a NCR or UST verdict in the territory compared to those who are not.

Consistent with literature on forensic psychiatry populations in Canada, about half of the sample had prior criminal justice involvement. Specifically, half of the sample had a previous criminal charge, and a quarter had previously been incarcerated. However, we found lower rates of psychiatric hospitalisations prior to forensic psychiatry system involvement compared to previous literature [14,36]. This is likely explained by the lack of available inpatient services in the territory as described in our review of the literature. It remains that Nunavummiut may be at an increased risk of criminal justice involvement and at the same time experiencing a lack of accessible mental health resources.

The primary diagnoses in the current sample are consistent with the existing literature on forensic psychiatry populations. Most individuals within the system have psychotic spectrum disorders, namely schizophrenia [14,16,36], and comorbid substance use disorders are common. However, a higher rate of intellectual

disability was observed in the current sample. This may add to previous evidence that Indigenous persons in the Canadian forensic psychiatry system are more likely to have a diagnosis of an intellectual disability than non-Indigenous accused [14,16].

The majority of the index offences for which the patients in the current sample came under the jurisdiction of the NRB were violent or sexual offences. In line with previous literature, the most common offences were assaults [14,16,36]. General offences (e.g. careless use of firearms, mischief, break and enter) represented less of the sample. This reflects previous evidence that the NCR defence is seldomly used for relatively minor offences [36]. However, the proportion of sexual index offences was higher in the current sample [14,16]. Higher rates of sexual index offences among Indigenous persons compared to non-Indigenous persons in the Canadian forensic psychiatry system has been previously described in the literature [16]. However, further research is warranted to further characterise the direction of this relationship.

It is notable that the majority of the sample did have results from forensic assessments reported in the annual hospital reports prepared for the NRB. The landmark court case of *Ewert v. Canada*, and resultant literature, provided evidence cautioning against the use of risk assessment tools for Indigenous populations [43–48]. In the *Ewert v. Canada* case, the applicant's claim was that, because risk assessment tools had been developed and validated with predominantly non-Indigenous populations, there was no evidence to support their use for Indigenous persons, and that such tools could have an unfavourable impact and cultural bias for Indigenous persons [43–45]. The *Ewert v. Canada* decision has had a substantial impact in the field [46–48]. It serves as a reminder that in striving to achieve equality and cultural respect for justice-involved Indigenous persons, all aspects of the criminal justice system should be considered, including assessment tools.

Moreover, our findings suggest that there are challenges specific to forensic psychiatry patients from Nunavut compared to other Canadian forensic psychiatry populations. Consistent with our review of the literature outlining barriers to healthcare in Nunavut, we found that all patients under the NRB during this one-year period were overseen by forensic facilities outside of Nunavut. Although the RB system operates under the federal *Criminal Code*, courts and RBs are constrained by the available resources within the province or territory. Thus, due to the lack of forensic mental health services in Nunavut, Nunavummiut under the NRB are hospitalised a significant distance away from home.

The average distance between where the patients lived in Nunavut and the Ontario forensic facilities they were designated to was 2,517 km. Flights between Ontario to Nunavut commonly fly between Ottawa and Iqaluit. Additional flights will be needed to travel to other communities in Iqaluit, and additional expenses may be needed to travel between the airport and the designated forensic psychiatry facilities. Due to the high cost associated with travelling (e.g. over 2,000 USD per flight) the ability for patients in southern Ontario to travel back to their community in Nunavut is limited. Travel will be largely dependent on the associated costs as well as the conditions and privileges afforded to them by the NRB and designated hospital. The NRB and hospitals may be reluctant to grant patients privileges to visit Nunavut because of the challenges associated with such a large distance, including the lack of available mental health and outpatient services in some communities.

It is apparent that there are significant challenges and implications of hospitalising individuals afar from home. Notwithstanding that the differences in culture, traditions, food, language, urbanisation and infrastructure is likely to be thoroughly enervating for individuals. For instance, almost all patients in the current sample were Indigenous, spoke Inuktitut as their first language, and many were from remote communities. The average population size for the communities in Nunavut for which the patients once resided was 4,042, whereas the average population in the cities in which the Ontario forensic psychiatry facilities were located was 691,920. Hence, these patients are likely to encounter and overcome challenges that others in the Canadian forensic psychiatry system do not.

Furthermore, granting individuals the ability to live in Nunavut while being overseen from afar by the hospital engenders additional barriers for community reintegration. NRB patients will likely experience significant hindrance obtaining appropriate levels of support that will allow them to re-enter their community effectively. Such a remarkable distance from home limits opportunity for trials of community living or authorised leaves of absence into their home community. Rather, they will likely have a trial of living in the community close to the hospital, not representative of where they may live after an absolute discharge. Thus, individuals under the NRB may spend longer times under detention orders than what is typical for those under the ORB for instance [36]. Indeed, previous literature has suggested that while Indigenous persons in the Canadian forensic psychiatry system do not have the same level of overrepresentation compared to the correctional population, they have been

found to have a significantly longer length of stay under the jurisdiction of a RB [16].

Strengths and limitations

To our knowledge, this is the first study to characterise individuals under the jurisdiction of the NRB. Similar to many other Arctic regions, Nunavut has faced challenges in establishing a forensic healthcare system. This has been augmented by a paucity of research on the forensic psychiatry population in this territory. The existing research that has included patients under the NRB has not investigated the unique characteristics and challenges that are specific to this population, but rather have made comparisons for Indigenous and non-Indigenous populations. The current study utilised data from all NRB hospital reports in a one-year period, thus presenting a representative sample of forensic psychiatry patients from Nunavut. The current study also has its limitations. Primarily, the results should be interpreted with consideration of the small sample size. The small sample size rendered us incapable of performing comparative analyses, and also limits the ability to assume that the results are applicable to other populations. Thus, the generalisability of findings may be limited to Nunavut. The retrospective design and reliance on archival records increased the likelihood of missing data and did not allow for direct access to individuals. While the current study was descriptive and had a small sample size, previous literature has highlighted the importance of descriptive research in forensic psychiatry as well as the use of small sample research for vulnerable and underrepresented populations [49–51].

Conclusion and future directions

It remains that Nunavut lacks the efficient resources and support that are needed to contribute to a sustainable administration of forensic psychiatric services. Previous literature has demonstrated that telehealth is a useful and important approach to providing mental health services in remote communities [52–54]. Telehealth can be particularly valuable when specialised services are unavailable. In recent years, telehealth has been increasingly integrated into forensic psychiatry practice, and to an even greater degree since the COVID-19 pandemic [55–57]. Telehealth services can be cost effective and reduce wait and travel times for assessments [53,56]. Previous literature has also reported successful outcomes from the use of other technological applications for clinical assessment, management, and increasing communication between clinicians and patients [55,58,59].

Technological applications can be used in conjunction with ongoing clinical support while also affording patients the opportunity to practice self-management while living in their community. With increased familiarity and acceptance of telehealth, it has been suggested that use of telehealth will continue to rise in the coming years, which is of particular importance for remote regions that continuously face impediments to accessing mental health services [52].

It would also be valuable to have increased communication between healthcare services within and outside of Nunavut [52]. A focus on knowledge translation could further engender the coordination of mental health resources among the regions within Nunavut and other provinces to foster interdepartmental collaboration. This can also include developing protocols for individuals who come into contact with the forensic psychiatry system. For instance, the use of communication technology can foster the dissemination of knowledge between programmes, among healthcare providers in remote locations across Nunavut, for healthcare workers that are new to the territory, and to increase the understanding culturally-sensitive care. Such initiatives should involve individuals from Nunavut communities as the consideration of Indigenous persons in Canada's forensic system should be considered within the context of social determinants of health, jurisdictional issues, and historical factors [4,52,58,60]. One of the barriers to care that Nunavut has faced is a lack of healthcare personnel and that many health professionals are within the region for a short period of time [2,27,28,61]. As discussed in our review of the literature, many healthcare workers outside of Nunavut are not oriented to the context, culture, and traditions of Inuit [26,61]. The use of technological applications (e.g. HealthNU) could provide a useful approach to address this knowledge gap (55,61,64). Furthermore, forensic programmes in southern Ontario could work to proactively integrate knowledge about the context, culture, and traditions, of patients from Nunavut to better inform treatment planning, rehabilitation, and discharge.

The current paper provides an important contribution to the literature on forensic psychiatry populations from Nunavut, and a step towards understanding, and encouraging discussions of, forensic psychiatry in northern Canada. Nonetheless, further evidence is still needed to extrapolate the bounds of forensic psychiatry involvement for this population in order to inform best practices and service planning. Future research could aim to evaluate the use of NCR and UST verdicts for justice-involved individuals with mental disorders in Nunavut, as well as comparative designs between forensic and correctional

populations. Service inequalities across provinces and territories in Canada can impact the use of mental disorder provisions. More research is needed to understand the interplay between the accessibility and use of psychiatric services and legal representation in Nunavut and entry into the forensic psychiatry system. Moreover, the lack of available data concerning forensic psychiatry patients across all territories in Canada hinders the ability for nationwide research. In turn, this impacts the access that policy makers, healthcare planners, and forensic programmes have to comparative information to inform the delivery of forensic mental health services across the nation. Research should evaluate and compare programming, treatment, factors related to length of stay and community reintegration, and successful trajectories within the forensic psychiatry system for those under the NRB. It would be valuable for this type of research to also include qualitative perspectives of individuals from Nunavut that have had contact with the forensic mental health system. Furthermore, comparisons could be made between services in other circumpolar regions with similar populations and climate to increase the understanding of challenges in organising forensic psychiatric healthcare systems. International comparisons of forensic psychiatry patient prevalence, population characteristics, services, and healthcare delivery in northern regions can aid in future healthcare planning and establishing best practices.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data for the current study is available upon request. Contact the corresponding author (GC).

Authors contributions

GC conceptualized the study. CU performed data analysis. GC and CU wrote the manuscript.

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