

Psychiatric admissions in young people after expiration of criminal justice supervision in Australia: a retrospective data linkage study

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ABSTRACT

Background Mental health services are available for young people involved with the criminal justice system. However, they have unmet mental health needs after the expiration of criminal justice supervision.

Objective To determine the incidence rate and identify predictors of psychiatric hospitalisations within 24 months after the expiration of criminal justice supervision among young people involved with the New South Wales (NSW) criminal justice system.

Methods Retrospective data from 1556 individuals aged 14–22 years who participated in four surveys of justice-involved young people in NSW were harmonised and linked to four NSW data collections. We calculated the incidence rates of psychiatric hospitalisations within 24 months postsupervision and identified predictors of these hospitalisations using a competing risks regression analysis.

Results Within 24 months postsupervision, 11.4% had a psychiatric hospitalisation compared with 3.5% during supervision. 20.7% of those admitted had a known history of mental illness and engaged with community-based and outpatient mental health services postsupervision. Predictors of psychiatric hospitalisations were: female sex (adjusted subdistribution HR (asHR) 1.84, 95% CI 1.24 to 2.73); previous incarceration (highest asHR for ≥4 episodes 1.67, 95% CI 1.01 to 2.78); head injury (asHR 1.63, 95% CI 1.20 to 2.21); personality disorder (asHR 3.66, 95% CI 2.06 to 6.48) and alcohol and substance use disorder (asHR 1.89, 95% CI 1.29 to 2.77).

Conclusion Justice-involved youth have higher rates of psychiatric admissions after criminal justice supervision. Engagement with mental health services postsupervision is important in addressing emerging or persisting mental health needs.

BACKGROUND

Young people involved in the criminal justice system have a higher prevalence of psychiatric disorders compared with their non-justice-involved peers, with 45%–73% diagnosed with at least one psychiatric disorder.¹ In New South Wales (NSW), 39%–63% of young people supervised in custody are diagnosed with at least one psychiatric disorder.²

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Previous research on the mental health of young people involved with the criminal justice system has shown discontinuity in mental healthcare after release from detention. However, longitudinal fluctuations in mental health status after leaving the criminal justice system are yet to be examined.

WHAT THIS STUDY ADDS

⇒ This study demonstrates an increase in psychiatric hospitalisation rates postsupervision, compared with rates observed during supervision. Low mental health service engagement was observed among justice-involved youth with mental illness postsupervision. Females, individuals with a history of incarceration, those with a history of head injury and those with personality disorders, alcohol and substance use disorders are at an increased risk of psychiatric hospitalisation after criminal justice supervision.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Early identification of mental illness is key to timely initiation of mental health treatment. Postsupervision engagement with mental health services is important in addressing emerging or persisting mental health needs. Justice-involved youth with a history of head injury could benefit from an early and comprehensive postinjury care that addresses both their neurological and mental health needs.

Previous research has demonstrated an increased risk of criminal justice involvement and recidivism among young people with psychiatric disorders.³ The relationship between psychiatric morbidity and criminal justice involvement is particularly complex among adolescents, as they have high reoffending rates and sporadic incarceration episodes compared with adults.⁴ In NSW, 93% of youth involved in the justice system are aged between 10 and 17 years, with a significant majority (88%) aged between 14



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and 17 years.⁵ About 44%–68% of adolescents in NSW re-engage with the criminal justice system within 1 year postconviction.⁶ The pattern of repeated criminal justice involvement coupled with emerging or persisting mental health problems could potentially increase their risk of deviating from a normal developmental trajectory.

Research on the longitudinal fluctuations in the occurrence of mental health issues among young people involved with the criminal justice system is limited. Previous studies have demonstrated that young people under custodial supervision have more psychiatric hospitalisations compared with their non-custodial peers.⁷ In NSW, the self-reported lifetime prevalence of psychiatric hospitalisations among young people in custody ranges between 13% and 17%.² Majority of studies that investigate mental health issues among justice-involved youth primarily focus on those in custody, often overlooking youth under community supervision.⁸ These gaps in knowledge could potentially lead to interventions missing critical factors influenced by family and environmental contexts, resulting in suboptimal rehabilitation, worsening mental health conditions and increased recidivism.⁹

Objective

The current study focused on young people in NSW, Australia, who were either in custody or serving community orders. First, this study aimed to calculate the incidence rates of psychiatric hospitalisations within 24 months after the end of criminal justice supervision. Second, this study aimed to identify predictors of psychiatric hospitalisations within 24 months after the end of criminal justice supervision.

METHODS

Study design

We conducted a retrospective study by linking data from four waves of health surveys (conducted by Justice Health NSW and Youth Justice (YJ) NSW) to four NSW administrative databases. We followed the Reporting of Studies Conducted Using Observational Data statement, an extension from the Strengthening the Reporting of Observational Studies in Epidemiology statement for observational studies using routinely collected health data.

Study population

In NSW, a young person can be charged with a criminal offence from the age of 10–17 years at the time of offence. The framework of the youth justice system in NSW revolves around the NSW Police Force, Children's Court and YJ NSW. The NSW Police Force investigates criminal allegations against young persons, initiates legal actions and may use alternatives such as formal cautions or YJ conference referrals. The Children's Court adjudicates cases involving alleged youth offences and may divert young people into mental health treatment or YJ conferences. After a finalised appearance for a proven offence, young people in NSW are supervised by YJ NSW in the community or incarcerated in youth justice centres.¹⁰

Our study population included young people aged 14–22 years who were supervised by YJ NSW and participated in the four Justice Health NSW and YJ NSW health surveys in 2003 (two surveys), 2009 and 2015. The surveys included: the 2003–2006 Young People on Community Orders Health Survey (YPoCOHS), the 2003 Young People in Custody Health Survey (YPiCHS), the 2009 YPiCHS and the 2015 YPiCHS (figure 1).^{11–13} The 2003 YPiCHS, 2009 YPiCHS and 2015

YPiCHS were conducted among young people in custody, while the 2003–2006 YPoCOHS was conducted among young people serving community orders. All four surveys used a total population sampling method with varying response rates (76%, 67%, 95% and 90% for 2003 YPiCHS, 2003–2006 YPoCOHS, 2009 YPiCHS and 2015 YPiCHS, respectively).

Data sources and linkage

Data from the four NSW health surveys were harmonised and linked to four NSW administrative databases namely the NSW Bureau of Crime Statistics and Research's (BOCSAR) Reoffending Database (ROD), the NSW Admitted Patient Data Collection (APDC), the NSW Mental Health Ambulatory Data Collection (MH-AMB) and the NSW Registry of Births, Deaths and Marriages (RBDM). Probabilistic linkage was performed by the Centre of Health Record Linkage (CHeReL) using a Master Linkage Key and deidentified unit record data were provided to the researchers.

The health survey data, conducted between 2003 and 2015, contained the participants' sociodemographic and familial characteristics, physical and mental health status and substance use history. The BOCSAR ROD, available from 1 January 1994 to 31 December 2020, contained information on participants' offences, convictions and sentencing and was used to identify the date of release from custody or expiration of community orders. The APDC, available from 1 July 2001 to 31 March 2022, contained information on all admitted patient episodes in NSW public and private hospitals, including patient demographics, diagnosis codes and treatment. The MH-AMB data, available from 1 January 2001 to 31 December 2021, contained information on ambulatory contacts with mental health services in NSW and was used to identify clinical contacts with these services. The RBDM data, available from 1 January 2003 to 31 March 2022, contained information on registered births, deaths and marriages and was used to identify deaths which defined the period of exposure for this study.

Outcome and definitions

The primary outcome was the first psychiatric hospitalisation within 24 months after the expiration of criminal justice supervision. The primary outcome was identified by (a) hospital admissions with a principal diagnosis of a mental, behavioural or neurodevelopmental disorder or (b) hospital admissions into a designated psychiatric unit with a diagnosis of a mental, behavioural or neurodevelopmental disorder. Sociodemographic, familial, justice-related and mental health predictors of psychiatric hospitalisations were obtained by linking the health survey data with BOCSAR-ROD, APDC and MH-AMB datasets. The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10 AM) codes were used to identify psychiatric disorders (detailed in online supplemental table 1). For this study, we considered psychiatric admissions as a relevant indicator of clinically adverse mental health problems. The need for specialised inpatient care, which is resource-intensive, typically indicates that the severity of the clinical presentation has exceeded the threshold of standard ambulatory or outpatient care.

We classified individuals with psychiatric disorders into six categories containing mutually exclusive set of ICD-10 AM diagnostic codes (detailed diagnosis categories are provided in online supplemental table 2) including (1) psychosis (schizophrenia, schizoaffective and other psychotic disorders; psychotic affective disorders and psychotic disorders related to substance use); (2)

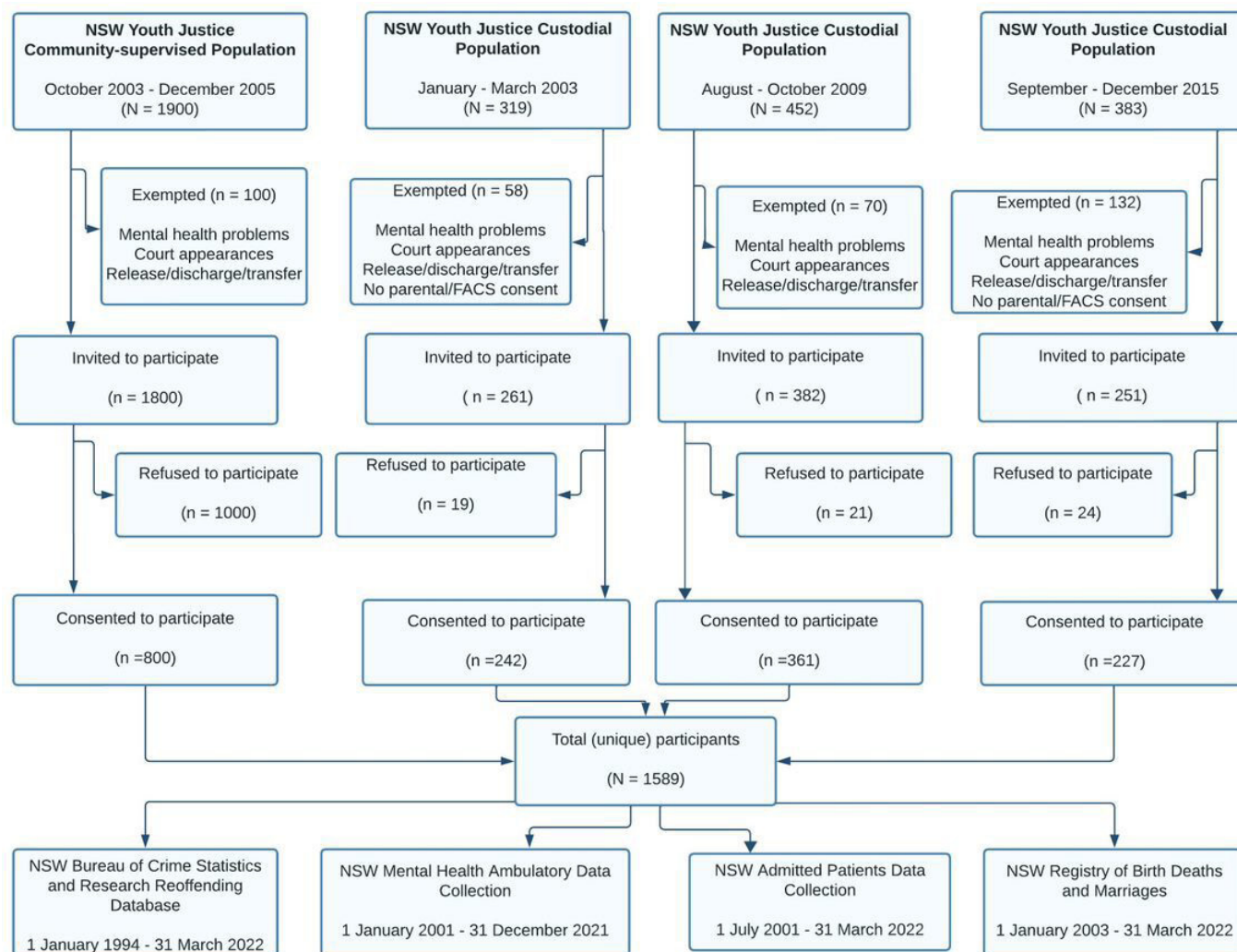


Figure 1 Flow chart for data linkage of the study population to data collections in New South Wales (NSW).

mood and anxiety disorders (depressive and other mood disorders; phobic anxiety disorders; reaction to severe stress; adjustment disorders and other anxiety disorders); (3) alcohol and substance use disorders; (4) personality disorders (clusters A, B, C and other personality disorders); (5) intellectual disability and neurodevelopmental disorders (mental retardation and disorders of psychological development) and (6) behavioural disorders (hyperkinetic disorders; conduct disorders and other childhood-onset disorders of behaviour and emotion).

We defined criminal justice supervision as court-ordered detention in a youth justice centre or community-based supervision. Criminal justice supervision ceased at the expiration of either court-ordered detention or community supervision order active at the time of survey administration. The follow-up period started from the date of release from detention or expiration of community order and ended at the earliest of first psychiatric admission, reincarceration, death or 24 months postsupervision.

Statistical analysis

We computed and applied poststratified weights for each participant to account for intrasurvey sampling error and differential response rates using age (14–17 or 18+) and sex (male or female) as stratification variables. Descriptive statistics, including the number and percentage, median and IQR, were

used to summarise patient characteristics at baseline. Incidence rate of psychiatric hospitalisation within 24 months postsupervision was calculated by dividing the number of first psychiatric admissions by the person-years at risk. Weighted incidence rates were calculated overall, and by supervision status.

We used a cumulative incidence function to estimate the probability of psychiatric hospitalisation within 24 months after release from detention or expiration of community order, while accounting for the competing risk of reincarceration. Competing risk regression analyses based on Fine and Gray's proportional subhazards model were used to identify predictors of psychiatric hospitalisation (with reincarceration as a competing event).¹⁴ Potential confounding variables were selected a priori for inclusion in the regression analyses based on literature review of prior research.^{8 9 15–17} The following variables were included in the univariate analysis: sex, age at baseline, Indigenous status, index supervision status, parental incarceration, parental death, out-of-home care placement, previous incarceration, head injury, substance use disorder, psychosis, mood and anxiety disorder, personality disorder, behavioural disorder and intellectual and neurodevelopmental disorder. All variables except age were modelled as categorical variables. We used a backward stepwise approach as the variable selection method for the multivariable model to reduce the potential of overfitting and enhance

interpretability. The initial multivariable model included all covariates with a $p < 0.2$ from the univariable analysis. Covariates with a p value of < 0.05 were retained in the final model. Age, sex and Indigenous status were consistently included in the multivariable model. Variables that were initially included in the regression analyses but subsequently removed during the backward elimination process were individually reintroduced to determine the adjusted estimates. The Akaike Information Criterion (AIC) was used to compare the models with and without these variables. The model that resulted in a smaller AIC was considered to be the better-fitting model. Subdistribution HRs (sHRs) and adjusted subdistribution HRs (asHRs) with 95% CIs were reported as measures of association. A two-sided p value < 0.05 was used to assess statistical significance. Covariates with $p < 0.05$ in the multivariable analysis were considered predictors of psychiatric admissions. We evaluated the assumption of proportional subhazards by including and assessing time-dependent interactions on all covariates in the multivariable model.¹⁸

We examined variables with missing data in the regression analyses and investigated the nature of missingness to ascertain whether the data were missing completely at random (MCAR). A p value > 0.05 from Little's test indicated that there was insufficient evidence to reject the null hypothesis of the data missing completely at random.¹⁹ A complete case approach was used for the definitive analysis given that (1) missingness of data was identified as MCAR and (2) the proportion of missing data in the multivariable analysis was negligible.²⁰

Data analysis was conducted using both SAS Software (V.9.4 for Windows) and Stata V.17 (Stata Corporation, College Station, Texas, USA). SAS was used for data management and manipulation, while Stata was used for weighting, determination of descriptive statistics and competing risk regression modelling.

FINDINGS

Characteristics of the study population

We included 1556 individuals aged 14–22 years from the four health surveys conducted among young people involved in the NSW justice system. Most were males (86.5%), and the median age was 17 years (IQR 16–18 years) at the time of release from custody or expiration of community order. About half of the participants were previously incarcerated, with more males (55.1%) than females (36.9%) experiencing incarceration prior to their current involvement with the criminal justice system. Parental incarceration, out-of-home-care placement and history of mental illness were more prevalent among females than males (table 1).

Psychiatric admissions within 24 months after criminal justice supervision

178 individuals (11.4%) had a psychiatric hospitalisation within 24 months after the expiration of supervision. This was an increase from the 3.5% of individuals who had a psychiatric hospitalisation during the period of supervision (online supplemental figure 1). The cumulative incidence of psychiatric hospitalisations increased with increasing psychiatric comorbidity (online supplemental figure 2). 52.2% of psychiatric hospitalisations were among those without a known psychiatric history at baseline.

16.3% of psychiatric hospitalisations were involuntary. Males made up the majority of voluntary (78.5%) and involuntary (79.3%) psychiatric hospitalisation cases, with a median time to the first psychiatric hospitalisation of 12 months (IQR 6–18) and

a median age of 18 years (IQR 17–18). Individuals aged 14–17 years had a shorter median time to first psychiatric hospitalisation (5 months (IQR 2–11)) compared with those aged 18–22 years (18 months (IQR 6–24)) (online supplemental table 4).

Online supplemental table 5 presents the weighted incidence rates of psychiatric hospitalisations (per 100 person-years). The overall incidence rate was 9.3 per 100 person-years of follow-up. Psychiatric hospitalisation rate was higher among First Nations youth compared with non-First Nations youth. However, First Nations youth and non-First Nations youth with similar incarceration histories had similar hospitalisation rates (at least one custodial episode: 21.3 vs 20.2 per 100 person-years, respectively).

Figure 2 presents the cumulative incidence of psychiatric hospitalisations by individual psychiatric diagnosis categories according to age, sex, Indigenous status and supervision status. Online supplemental figure 3 shows the principal diagnosis during the first psychiatric hospitalisation episode. Online supplemental figure 4 shows the distribution of the three most prevalent principal diagnoses (substance use disorder, anxiety disorder and schizophrenia) by supervision status (community or custody) and mental illness history. Within the first-year post-supervision, those with mental illness and previous incarceration experienced higher hospitalisation rates during the first month and markedly higher rates beyond the 1-year mark (online supplemental figure 5).

Online supplemental table 6 presents the count, proportion and median time to mental health service engagement by psychiatric history at baseline. The median time to mental health service engagement among those with and without known psychiatric histories was 1 month (IQR 1–5) and 9 months (IQR 5–16), respectively. Online supplemental table 7 presents the count and proportion of mental health service engagement among those admitted.

Predictors of psychiatric hospitalisation within 24 months postsupervision

The multivariate analysis demonstrated several predictors of psychiatric hospitalisation (table 2). The hazard of psychiatric hospitalisations was higher for females (asHR 1.84, 95% CI 1.24 to 2.73) compared with males, those with personality disorders (asHR 3.66, 95% CI 2.06 to 6.48) compared with those without; those with alcohol and substance use disorder (asHR 1.89, 95% CI 1.29 to 2.77) compared with those without and those with ≥ 4 incarceration episodes (asHR 1.67, 95% CI 1.01 to 2.78) compared with those with 0–1 incarceration episode. The hazard of psychiatric hospitalisation was lower with each unit increase in age (asHR 0.94, 95% CI 0.88 to 0.99).

DISCUSSION

Identifying factors that contribute to clinically adverse mental health outcomes among justice-involved youth is essential to guiding timely interventions. This study demonstrates an increase in psychiatric hospitalisations among the study population from 3.5% during criminal justice supervision to 11.4% within 24 months postsupervision. 17.4% of psychiatric admissions were involuntary. Comparison with data from the Australian Institute of Health and Welfare indicates that the psychiatric hospitalisation rates for justice-involved youth in our study population are 9–19 times higher than those of their peers in the general NSW population.²¹ This is consistent with findings from previous studies.²² Those diagnosed with personality, alcohol

Table 1 Baseline* characteristics of the study population by unweighted and weighted measures, overall and by sex

Characteristics	Unweighted			Weighted		
	Overall (N=1556) N (%)	Females (n=192) n (%)	Males (n=1364) n (%)	Overall (N=3054) N (%)	Females (n=369) n (%)	Males (n=2685) n (%)
Survey						
2003–2006 YPoCOHS	766 (49.2)	114 (59.4)	652 (47.8)	1900 (62.2)	271 (73.4)	1629 (60.7)
2003 YPiCHS	236 (15.2)	19 (9.9)	217 (15.9)	319 (10.5)	25 (6.8)	294 (10.9)
2009 YPiCHS	346 (22.2)	40 (20.8)	306 (22.4)	452 (14.8)	41 (11.1)	411 (15.3)
2015 YPiCHS	208 (13.4)	19 (9.9)	189 (13.9)	383 (12.5)	32 (8.7)	351 (13.1)
Age at interview, median (IQR)	17 (16–18)	17 (16–18)	17 (16–18)	17 (16–18)	17 (16–18)	17 (16–18)
Age at baseline, median (IQR)	18 (17–19)	17 (16–18)	18 (17–19)	18 (17–19)	17 (16–18)	18 (17–19)
Country of birth						
Australian-born (Indigenous)	406 (26.1)	66 (34.4)	340 (24.9)	715 (23.4)	118 (32.0)	597 (22.2)
Australian-born (non-Indigenous)	936 (60.2)	105 (54.7)	831 (60.9)	1896 (62.1)	205 (55.5)	1691 (63.0)
Non-Australian born	214 (13.8)	21 (10.9)	193 (14.2)	443 (14.5)	46 (12.5)	397 (14.8)
Parental incarceration						
0	798 (51.3)	90 (46.9)	708 (51.9)	1779 (58.3)	201 (54.5)	1578 (58.8)
≥1 parent	510 (32.8)	77 (40.1)	433 (31.7)	924 (30.3)	139 (37.8)	785 (29.2)
Missing	248 (15.9)					
Parental death						
0	1064 (68.4)	141 (73.4)	923 (67.7)	2282 (74.7)	304 (82.3)	1979 (73.7)
≥1 parent	163 (10.5)	16 (8.3)	147 (10.8)	316 (10.4)	27 (7.3)	289 (10.8)
Missing	329 (21.1)					
Out-of-home care placement						
0	1014 (65.2)	113 (58.9)	901 (66.1)	2020 (66.1)	219 (59.4)	1801 (67.1)
≥1 placement	333 (21.4)	62 (32.3)	271 (19.9)	640 (20.9)	119 (32.2)	521 (19.4)
Missing	208 (13.4)					
Previous incarceration						
0	734 (47.2)	121 (63.0)	613 (44.9)	1535 (50.3)	253 (68.4)	1283 (47.8)
≥1 episode	822 (52.8)	71 (36.9)	751 (55.1)	1519 (49.7)	117 (31.6)	1402 (52.2)
History of head injury						
No	995 (64.0)	133 (69.3)	862 (63.2)	1925 (63.0)	254 (69.0)	1671 (62.2)
Yes	532 (34.2)	56 (29.2)	476 (34.9)	1076 (35.2)	108 (29.3)	968 (36.0)
Missing	29 (1.8)					
Previous psychiatric history						
No psychiatric outpatient/admission	1274 (81.8)	144 (75.0)	1130 (82.8)	2557 (83.7)	289 (78.2)	2268 (84.5)
Psychiatric outpatient only/no admission	221 (14.2)	33 (17.2)	188 (13.8)	378 (12.4)	54 (14.6)	324 (12.1)
≥1 psychiatric admission	61 (3.9)	15 (7.8)	46 (3.4)	119 (3.9)	26 (7.2)	93 (3.4)

*Baseline is the first day of release from custody or expiration of community-based supervision.

YPiCHS, Young People in Custody Health Survey; YPoCoHS, Young People on Community Orders Health Survey.

and substance use disorders had a higher risk of psychiatric admissions compared with those without these conditions.

The increase in psychiatric hospitalisations postsupervision may be attributed to several reasons. We observed differential engagement with mental health services among justice-involved youth with mental illness during supervision compared with postsupervision. In the 2009 YPiCHS, 78%–86% of participants reported using the services of a psychiatrist and psychologist while in custody.¹² Overall, only 20.7% of participants who were hospitalised had a known history of mental illness and engaged with mental health services postsupervision. 52.2% of psychiatric admissions were observed among those without a known psychiatric history, often following a disproportionate delay in mental health service contact compared with those with known psychiatric histories. Our findings align with a previous NSW study among prisoners which demonstrated mental health service engagement rates of 85.5% during supervision. However, only 14.2% engaged with community-based mental health services postrelease.²³

Female justice-involved youth, though fewer in number, had an increased rate and risk of psychiatric hospitalisations compared with their male counterparts. This trend aligns with the general NSW population where a twofold increase in psychiatric hospitalisation rates has been demonstrated among females of the same age groups, compared with males.²¹ Individuals aged 14–17 years who were supervised in custody had higher psychiatric hospitalisation rates than their counterparts aged 18–22 years. This contrasts with trends observed in the general NSW population, where those aged 12–17 years had lower psychiatric hospitalisation rates compared with those aged 18–24 years.²¹ Community-supervised youth had similar hospitalisation rates irrespective of age group. This suggests that the supervisory environment (custody vs community) may play a role in influencing mental health outcomes among different age groups.

First Nations youth had higher rates of psychiatric hospitalisations compared with non-First Nations youth. However, the multivariable analysis showed no differences in psychiatric hospitalisations between First Nation and Non-First Nation

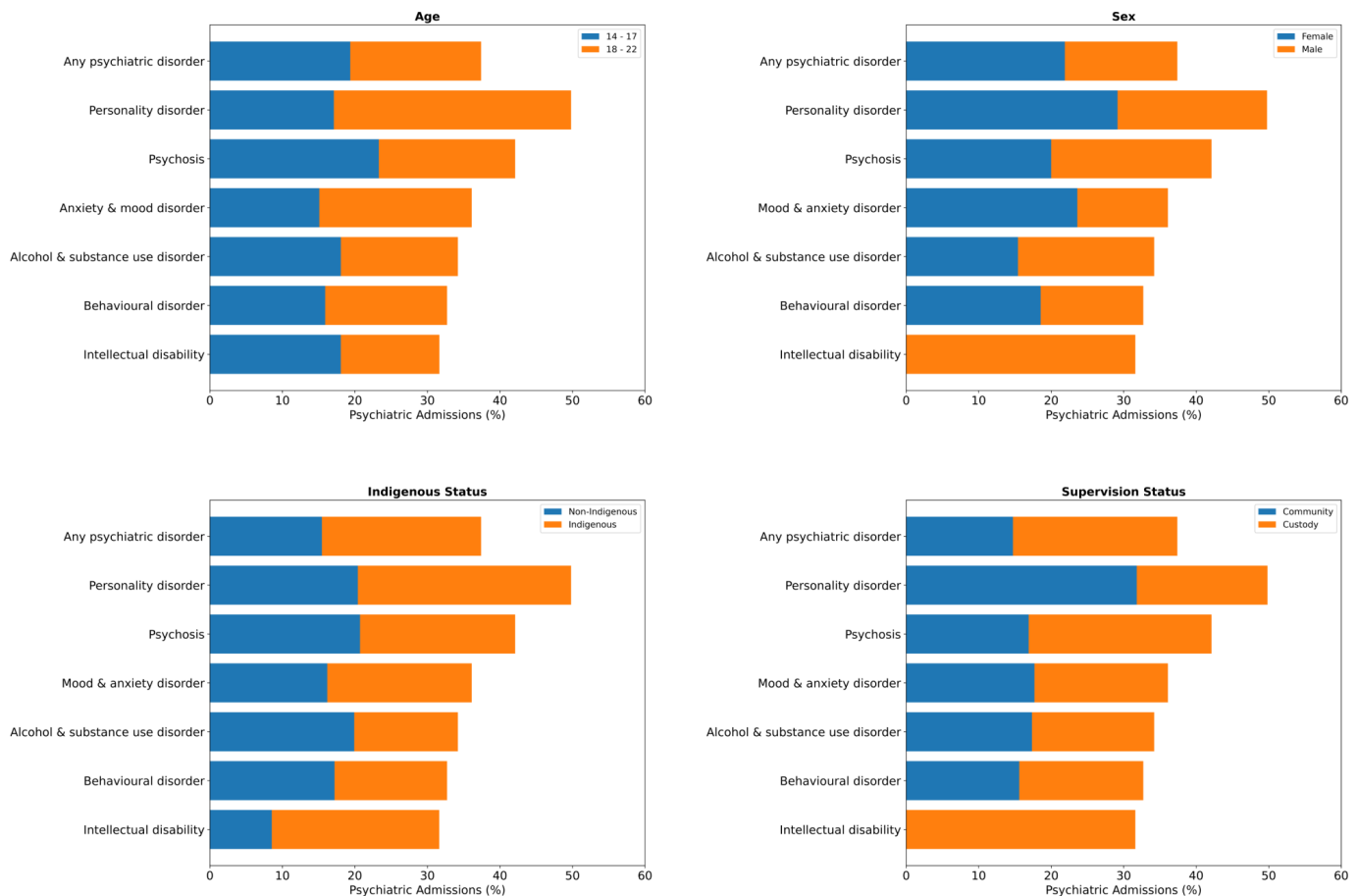


Figure 2 Estimated cumulative incidence of psychiatric hospitalisations among participants with psychiatric disorders, by age, sex, Indigenous status and supervision status.

youth. Our findings suggest that the absence of statistical correlation between Indigenous status and psychiatric hospitalisations may be due to similar psychiatric hospitalisation rates observed among First Nations and non-First Nations youth with comparable incarceration histories. These findings align with a previous study in the Northern Territory of Australia which found similar occurrences of mental health-related hospitalisations among First Nations and non-First Nations youth with comparable experiences of child protection and youth justice involvement.²⁴

Justice-involved youth with four or more incarceration episodes had a higher risk of psychiatric hospitalisation than those with a maximum of one incarceration episode. Mentally ill justice-involved youth with prior incarceration experiences had a higher cumulative incidence of psychiatric hospitalisation than mentally ill youth without incarceration experiences. A previous study has shown that justice-involved youth experiencing detention have a higher risk of poor mental health outcomes due to significant mental health needs. This risk may be amplified by repeated custodial incarcerations or continued involvement with the justice system, especially among those with known mental illness histories.²⁵ Beyond the adverse experiences these individuals face prior to justice system involvement, incarceration itself is inherently traumatic for these young individuals and can lead to a cycle of re-traumatisation among those who repeatedly engage with the criminal justice system.²⁶

This study reveals concerning evidence regarding the risk of psychiatric hospitalisation among justice-involved youth with a history of head injury. About one-fifth of participants in the most

recent survey cohort self-reported a prior traumatic brain injury (TBI), which was radiologically confirmed in clinical settings.¹³ Previous studies have established a correlation between TBI and traumatic events in childhood including witnessing violence, physical and sexual abuse.²⁷ Other studies have demonstrated an elevated risk of mental health disorders among individuals with TBI.¹⁷ These findings suggest that justice-involved youth with TBI do not only deal with the direct neurological consequences of their injury but also potentially face exacerbated mental health challenges.

Strengths and limitations

It is important to interpret the findings from the present study with certain limitations in mind. Our study population excluded young people aged 10–13 years. Since most justice-involved youth in NSW are 14 years or older, our findings are generalisable to the majority of justice-involved youth in NSW. Our study methodology used NSW administrative databases for episodes of incarceration, hospitalisation and mental health service engagements. Therefore, events that occurred outside NSW may not be captured in these databases. We mitigated the inherent limitations of the survey data by harmonising data across different surveys and supplementing it with additional data from linked administrative datasets. The probabilistic data linkage method used by CHeReL reported a low false positive rate of 0.5%. To further ensure the reliability of our data, we conducted additional quality controls, including logical and consistency

Table 2 Predictors of psychiatric admissions within 24 months postsupervision (n=1527)

Variables	Events/ person-years	Univariable analysis		Multivariable analysis	
		sHR (95% CI)	P value	asHR (95% CI)	P value
Sex					
Male	139/1604	1.0 (ref)		1.0 (ref)	
Female	37/247	2.01 (1.40 to 2.90)	<0.001	1.84 (1.24 to 2.73)	0.003
Age at baseline (years)	—	0.94 (0.87 to 0.99)	0.032	0.94 (0.88 to 0.99)	0.043
Indigenous status					
Non-Indigenous	122/1468	1.0 (ref)		1.0 (ref)	
Indigenous	54/383	1.27 (0.92 to 1.75)	0.145	0.97 (0.68 to 1.40)	0.884
Previous incarceration					
0–1 episode	136/1659	1.0 (ref)		1.0 (ref)	
2–3 episodes	21/136	0.91 (0.58 to 1.44)	0.691	0.95 (0.59 to 1.53)	0.838
≥4 episodes	19/56	1.81 (1.09 to 2.00)	0.015	1.67 (1.01 to 2.78)	0.047
Head injury					
No	97/1209	1.0 (ref)		1.0 (ref)	
Yes	79/642	1.58 (1.18 to 2.13)	0.002	1.63 (1.20 to 2.21)	0.002
Alcohol and substance use disorder					
Not present	117/1574	1.0 (ref)		1.0 (ref)	
Present	59/277	2.74 (2.00 to 3.76)	<0.001	1.89 (1.29 to 2.77)	0.001
Personality disorder					
Not present	154/1811	1.0 (ref)		1.0 (ref)	
Present	22/40	6.52 (4.03 to 10.53)	<0.001	3.66 (2.06 to 6.48)	<0.001
Psychosis					
Not present	150/1769	1.0 (ref)		1.0 (ref)	
Present	26/82	3.44 (2.02 to 5.88)	<0.001	1.33 (0.70 to 2.53)	0.379

Age at baseline (expiration of criminal justice supervision) is a continuous variable.
asHR, adjusted subdistribution HR; sHR, subdistribution HR.

checks. We applied poststratification weights to minimise intrasurvey sampling error and account for differential response rates.

Clinical implications

Engagement with mental health services postsupervision is crucial in ensuring continuity of care and addressing emerging or persisting mental health needs. Early detection of mental disorders and timely initiation of treatment can be improved through the use of effective mental health screening tools during episodes of criminal justice supervision. Policies and strategies should address engagement-related and service-related barriers to mental health service engagement in the community. The provision and wide availability of transitional support services, such as case management and peer support, can mitigate engagement-related barriers by facilitating access to community mental health services.²⁸ Initiatives aimed at increasing awareness about the importance of mental health treatment among justice-involved youth and their caregivers can further enhance engagement with mental health services. Service-related barriers can be mitigated through the provision of community-based, gender-responsive and culturally appropriate services that can address the broader social determinants of mental health. For justice-involved youth with TBI, immediate postinjury rehabilitation has the potential to reduce the risk of ensuing psychiatric disorders.¹⁷ Future research should explore the lived experiences of justice-involved youth to better understand engagement-related and service-related barriers to mental health utilisation postsupervision.

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