

Mental Health Contact Episodes in the Year Prior to First Adult Imprisonment Among Men Who Inject Drugs in Victoria, Australia

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Short report

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Abstract

Background: People in prison experience higher rates of mental illness than the general community, and commonly have cooccurring histories of drug dependence. While patterns of mental health service contacts following prison release have been extensively described, limited research has explored histories of service contacts prior to adult imprisonment. We describe public mental health contacts in the 12 months prior to first adult imprisonment among a cohort of men recruited in prison in Victoria, Australia, with recent histories of injecting drug use (IDU).

Methods: Retrospective data from two administrative databases – public mental health service contacts from the Victorian state-wide public mental health database and imprisonment episodes from Corrections Victoria – were linked to primary data from the Prison and Transition Health (PATH) cohort study. We describe patterns of mental health contact episodes (contact days) and contact types, including continuing community care (categorised as non-urgent care) and crisis/emergency contacts (categorised as urgent) in the 12 months prior to participants' first adult imprisonment.

Results: Among 400 participants, 60 (15%) had contact with a mental health service in the year prior to their first adult imprisonment, accounting for 861 contact episodes [median 5; interquartile range (IQR) 2–11]. The median days between last contact and imprisonment was 52 (IQR 7–116) and the median days between contacts was three (IQR 1–7). Of the total contacts, 52% (n=450/861) were for continuing community care and 27% (n=234/861) involved crisis assessment treatment; 42 (70%) participants with mental health service contacts had at least one crisis/emergency contact within one year of their first adult imprisonment.

Conclusion: We found that 15% of a cohort of men with histories of IDU had mental health service contacts in the 12 months prior to their first adult imprisonment. These contacts were typically frequent and more than one in four involved crisis/emergency care. These findings highlight significant vulnerabilities and potential missed opportunities for intervention early in offending trajectories. Further research is required to understand how these vulnerabilities can be better identified and more appropriately addressed in-community to reduce pathways into prison.

Background

Prison populations are known to have significantly higher rates of mental illness compared to general populations; recent global estimates suggest around 14% of people in prison have a history of diagnosis of a serious mental illness.¹ In the Australian general population, serious mental illness affects approximately 2–3% of people.² Upon release from prison, people with serious mental illness experience higher rates of homelessness, unemployment,³ substance use,⁴ and have an increased risk of suicide.^{5,6} The co-occurrence of mental illness and substance use is also common among prison populations,^{7,8} and is associated with higher rates of reimprisonment compared to those without dual diagnosis.⁹ Engagement with public mental health services indicates a high level of mental health care need and

such contacts may provide an opportunity to intervene to prevent imprisonment among this group; however, little is known about access to mental health services prior to imprisonment. To address this gap, we use retrospective data linkage to describe the frequency and type of public mental health service contact episodes in the 12 months prior to first adult imprisonment in a cohort of men recruited in prison with recent histories of injecting drug use, who typically went on to have substantial lengths of IDU careers and trajectories of repeated imprisonments.

Methods

Data come from the Prison and Transition Health Cohort Study (PATH). PATH is a prospective cohort study of 400 men recruited in the weeks preceding release from prison (one minimum, one medium, one maximum security prison) in Victoria, Australia. The PATH study protocol and participants' baseline/pre-release characteristics have been published elsewhere.¹⁰ Study eligibility involved self-reporting at least monthly injecting drug use in the six months prior to imprisonment, being ≥ 18 years of age, being sentenced, and consenting to the baseline and three follow-up interviews. Baseline interviews occurred between September 2014 and May 2016, a median of 39 days (IQR 15, 69) prior to release from prison.

We retrospectively linked PATH interview data with records from three administrative databases: mental health service contacts from the Victorian statewide public mental health database from March 1999; dates of adult imprisonment episodes from Department of Justice and Community Safety (DJCS) from October 1999; and Victoria Police arrest data from the Law Enforcement Assistance Program (LEAP) database from July 1987. Data linkage was approved by the relevant data custodian and conducted using deterministic methodologies.¹¹

The study was approved by the Alfred Hospital Ethics Committee (79/12), and the Victorian Government Department of Justice and Community Safety Justice Health Research Ethics Committee (CF/14/10169).

Variables

First adult imprisonment was determined by identifying an individual's first imprisonment episode recorded by the DJCS.

Outcome

Victorian state-wide public mental health service contact (hereafter: 'mental health contact') in the 12 months prior to the date of first adult imprisonment episode was the primary outcome of interest. The Victorian statewide mental health contact database details all specialist public mental health contacts in Victoria, including community and acute inpatient contacts. Contacts were grouped into five mutually exclusive categories of diminishing severity: (1) Crisis Assessment and Treatment Team (CATT) and emergency contacts, relating to urgent community-based assessment and short-term treatment interventions to people in psychiatric crisis, and adult acute inpatient admissions; (2) Mobile Support and

Treatment Services (MSTS), which includes intensive community services provided to individuals experiencing prolonged severe mental illness and at risk of readmission to hospital without support; (3) intake/triage services, relating to the initial psychiatric assessment to determine the nature of concern and treatment needs; (4) continuing care services, relating to standard non-urgent assessment, treatment, support, and case management services; and (5) other services including primary mental health services, consultation and liaison services for mental health support during periods of physical health morbidity, hospital outpatient services, and services coded as 'unknown'. In this analysis, one mental health contact was allocated per individual per day to estimate contact episodes. Where two or more contacts were recorded for the same individual on the same day, the more severe contact type, as described above, was considered the contact type for that day.

Covariates

Participant characteristics across sociodemographic and adverse childhood experiences domains were collected during participants' recruitment interviews in prison. Covariates pertinent to first adult imprisonment were selected based on previous studies of people involved in the criminal justice system;^{4, 12} these included being born outside of Australia (no, yes), identifying as Aboriginal and Torres Strait Islander (no, yes), number of years of education completed (< 10, ≥ 10 years), ever expelled from school (no, yes), ever removed from family as a child (no, yes), ever declared a ward of the state (no, yes), age of first drug injection (in years; ordinal), injected drugs prior to first adult imprisonment (estimated year of first drug injection based on year of birth and reported age of first drug injection; no, yes), and self-reported history of juvenile detention (no, yes). Age of first arrest was determined using linked data from the LEAP database and defined by first arrest episode recorded prior to, or after the age of 18 years, to identify potential juvenile offence history. Subsequent reimprisonments were determined using linked data from the DJCS (years 2000–2016; <5, ≥ 5 episodes).

Data analysis

We generated descriptive statistics for participant characteristics stratified by mental health contact episode within the 12 months prior to first adult imprisonment (no, yes). To assess for differences in characteristics between those with and without a mental health contact, categorical variables were assessed using a two-sample test of proportions and continuous variables were assessed using a two-sample t-test; results were reported as mean difference and 95% confidence intervals (95% CI).

Mental health contact episodes in the 12 months prior to first adult imprisonment were described using summary statistics, as was days between mental health contact episodes, and days between last mental health contact episode and first adult imprisonment; medians and interquartile ranges (IQRs) were reported.

Mental health contact types were summarised and illustrated using histograms. To examine timing of contact type and proximity to adult imprisonment, contact episodes were grouped by three-month pre-

imprisonment intervals defined as: 12–9 months, 9–6 months, 6–3 months, and 3–0 months preceding entry into prison.

All analyses were conducted using Stata 15.1 for Windows.¹³

Results

Participant characteristics

Of the total cohort, 15% (n = 60/400) had a mental health contact episode within the 12 months prior to their first adult imprisonment. Participant characteristics collected prior to release from participants index imprisonment indicated that most (93%) were born in Australia, and 22% identified as Aboriginal and Torres Strait Islander. Most (52%) participants completed less than 10 years of education, 77% had been expelled from school, 26% were removed from their family as a child, almost all (95%) had injected drugs prior to their first adult imprisonment, more than half (60%) had a first arrest episode prior to the age of 18 years, almost half (48%) reported a history of juvenile detention, and more than half (57%) had five or more reimprisonment episodes. The mean age of first drug injection was 18 years. There was no statistically significant difference among characteristics between those with and without a mental health contact in the year prior to first adult imprisonment (Table 1).

Table 1

Baseline characteristics of PATH participants with and without a mental health contact episode within the 12 months prior to first adult imprisonment (N = 400 participants)

	No contact (n = 340) n (%)	Contact (n = 60) n (%)	Mean diff.	95% CI
Born outside Australia (vs in Australia)	38 (11.2)	4 (6.7)	0.05	-0.03, 0.12
Aboriginal and Torres Strait Islander (vs no)	53 (15.6)	13 (21.7)	-0.06	-0.17, 0.05
Education < 10 years (vs ≥ 10 years)	136 (40.0)	31 (51.7)	-0.12	-0.25, 0.02
Expelled from school (vs no)	213 (65.1)	44 (77.2)	-0.12	-0.24, -0.00
Removed from family as child (vs no)	84 (24.9)	16 (26.7)	-0.02	-0.14, 0.10
Ward of the state (vs no)	53 (16.3)	9 (15.8)	0.01	-0.10, 0.11
Age of first injection (yrs.) – mean (SD)	19 (5.8)	18 (5.0)	0.67	-0.89, 2.24
Injected drugs prior to first adult imprisonment (vs no)	310 (91.2)	57 (95.0)	-0.04	-0.10, 0.02
Age of first arrest < 18 years (vs ≥ 18 yrs.)	166 (48.8)	36 (60.0)	-0.01	-0.03, 0.25
Juvenile detention history (vs no)	146 (43.5)	29 (48.3)	-0.05	-0.19, 0.09
Subsequent reimprisonments* (vs < 5)	223 (65.6)	34 (56.7)	0.09	-0.04, 0.23
Note: PATH = Prison and Transition Health Cohort Study, SD = standard deviation, * = from years 2000–2016.				

Mental health contacts

There were 858 mental health contacts among the 60 participants in the 12 months prior to their first adult imprisonment. Most (n = 51/60, 85%) had two or more mental health contact episodes (median contact episodes 5, range 1–175, IQR 2–11). Participants with more than one mental health contact episode had a median of three days (IQR 1–7 days) between mental health contact episodes.

Participants had a median of 52 days (IQR 9–119 days) between last mental health contact episode and first adult imprisonment.

Continuing care contacts were consistently the most common mental health contact type across all three-month intervals in the 12 months prior to first adult imprisonment, accounting for 52% of mental health contact episodes (Table 2). CATT/emergency care contacts accounted for 27% of all mental health contact episodes, with 70% (n = 42/60) of participants having at least one CATT/emergency contact episode within the 12 months prior to first adult imprisonment.

Table 2

Mental health contact type among 60 PATH participants with a Victorian state-wide public mental health record in the 12 months prior to their first episode of adult imprisonment (contact episodes, N = 858).

Contact type	All contacts (N = 858) n (%)	12–9 mths (n = 220) n (%)	9–6 mths (n = 219) n (%)	6–3 mths (n = 210) n (%)	3–0 mths (n = 209) n (%)
CATT/Emergency	234 (27.3)	61 (27.7)	49 (22.4)	59 (28.1)	66 (31.6)
Mobile Support and Treatment Services	88 (10.3)	26 (11.8)	23 (10.5)	17 (8.1)	22 (10.5)
Intake/ triage	53 (6.2)	10 (4.6)	9 (4.1)	14 (6.7)	20 (9.6)
Continuing care	449 (52.3)	114 (51.8)	131 (59.8)	117 (55.7)	87 (41.6)
Other	34 (4.0)	9 (4.1)	7 (3.2)	3 (1.4)	14 (6.7)

Note: PATH = Prison and Transition Health study; CATT = Crisis Assessment and Treatment Team; Other = primary mental health services, consultation and liaison services, hospital outpatient services, and services coded as 'unknown'.

Discussion

Specialist mental health services are aimed primarily at people with serious mental illness who experience high levels of psychological distress or crises.¹⁴ Fifteen percent of men in our sample had contact with a Victorian state-wide public mental health service in the 12 months prior to their first adult imprisonment. Given the high rates of mental illness among people in prison,^{1, 15} it is possible that other participants in this study required but did not receive mental health care during this time, suggesting a potential area of unmet need among people entering prisons. Of those who had a mental health contact, most had two or more contact episodes. These were commonly for non-urgent care, however, most also had at least one CATT/emergency contact episode requiring urgent care during the period of observation.

In this study, continuing care contacts (standard, non-urgent care and support provided to people with serious mental illness in the community^{16, 17}) were consistently the most common contact type within the

12 months prior to participants' first adult imprisonment. This accords with continuing care contacts typically accounting for the largest component of community-based mental health services provided in Victoria.¹⁷ Despite this, 70% of participants with pre-imprisonment mental health contact episodes had a CATT/emergency contact during this time. These contacts provide the highest level of care and intervention during periods of acute mental health crises,¹⁶ and indicate a period of heightened psychological instability experienced prior to entry into prison for some of the men in this study. Public mental health service contact indicates a high level of mental health care need and such contacts may provide crucial opportunities to intervene to prevent entry into prison. This is especially important among people with co-occurring serious mental illness and substance use,¹⁸ a particularly vulnerable population who experience high levels of poor health and social outcomes post release from prison.^{19–21}

Preventing imprisonment among people with co-occurring mental illness and substance use may also be achieved through diversion to appropriate mental health services at various points prior to, and when moving through the criminal justice system.^{22, 23} Holistically addressing pertinent social factors via mental health services, such as housing instability,^{24, 25} may also reduce offending and prevent entry into secure custodial settings. Many of the men in this study had extensive trajectories of repeated imprisonments, which is consistent with previous studies reporting high rates of reimprisonment among people with co-occurring mental illness and substance use.^{9, 26} This highlights a need to focus on identifying evidence-based diversionary strategies and the resources required – such as applicable mental health screening tools and trained personnel – to ensure those with the highest need are being effectively and efficiently identified and diverted to receive appropriate mental health care.

Our study is limited in generalisability and does not represent all people in prison; however, it is one of few to focus on people who inject drugs who represent a significant proportion of people imprisoned. Deterministic data linkage requires a complete match across all variables of interest, which may impact the sensitivity of matches such that mental health contacts may be underestimated. Data on criminal offences was not available, therefore offence severity could not be analysed for feasibility of intervention to prevent entry into prison among this sample.

Conclusion

This study identifies a population of men with extensive specialist public mental health service contacts leading up to their first episode of adult imprisonment who subsequently had lengthy injecting drug using careers and repeated imprisonments. Commonly, mental health contact episodes involved non-urgent continuing community care and support, however crisis assessment and emergency contacts were frequent prior to imprisonment, indicating acute psychiatric instability requiring a high level of care. These extensive contacts highlight significant vulnerabilities and potential opportunities for intervention, such as support for social factors affected by mental illness that are associated with offending, and diversion to appropriate mental health services. Further research is required to understand how these vulnerabilities can be more appropriately addressed in-community to prevent entry into prison.

Declarations

Ethics approval and consent to participate

The PATH study was approved by the Alfred Hospital Human Research Ethics Committee (79/12) and the Victorian Government Department of Justice and Community Safety Human Research Ethics Committee (CF/14/10169). All participants completed informed written consent to participate in the study.

Consent for publication

Not applicable

Data access

There are provisions for data access, however dependent upon relevant ethics approvals due to the sensitive nature of the study data. Persons interested in obtaining data files, including code, from the Prison and Transition Health Study should contact the corresponding author.

Declarations of competing interest

The authors declare that they have no competing interests.

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Authors' contributions

AS, supported by MS, AW, BQ, and PD, led the concept of the paper, including writing, editing and statistical analysis. RC, AW, and BQ assisted with statistical analysis, code review and editing. SW, RW, and MC edited the paper. MS is the chief investigator of the PATH study and provided guidance for paper development and editorial support throughout the duration of the planning and writing. All authors read and approved final manuscript.

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