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Original Article

Restricting community treatment orders to people with non-affective psychosis is needed to reduce use and improve subsequent outcomes: Queensland-wide cohort study

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Background

The use of community treatment orders (CTOs) has increased in many jurisdictions despite very limited evidence for their efficacy. In this context, it is important to investigate any differences in outcome by subgroup.

Aims

To investigate the variables associated with CTO placement and the impact of CTOs on admissions and bed-days over the following 12 months, including differences by diagnosis.

Method

Cases and controls from a complete jurisdiction, the state of Queensland, Australia, were analysed. Administrative health data were matched by age, sex and time of hospital discharge (index date) with two controls per case subject to a CTO. Multivariate analyses were used to examine factors associated with CTOs, as well as the impact on admissions and bed-days over the 12 months after CTO placement. Registration: Australian and New Zealand Clinical Trials Registry (ACTRN12624000152527).

Results

We identified 10 872 cases and 21 710 controls from January 2018 to December 2022 (total n = 32 582). CTO use was more likely in First Nations people (adjusted odds ratio = 1.14; 95% CI: 1.06–1.23), people from culturally diverse backgrounds (adjusted odds ratio = 1.45; 95% CI: 1.33–1.59) and those with a preferred language other than English (adjusted odds ratio = 1.21; 95% CI: 1.02–1.44). When all diagnostic groups were considered, there were no differences in subsequent admissions or bed-days between cases and controls. However, both re-admissions and bed-days were significantly reduced for CTO cases compared with controls in analyses restricted to non-affective psychoses (e.g. adjusted odds ratio = 0.77, 95% CI: 0.71–0.84 for re-admission).

Conclusions

Queenslanders from culturally or linguistically diverse backgrounds and First Nations peoples are more likely to be placed on CTOs. Targeting CTO use to people with non-affective psychosis would both address rising CTO rates and mean that people placed on these orders derive possible benefit. This has implications for both clinical practice and policy.

Keywords

Community treatment orders; out-patient commitment; compulsory community treatment; psychosis; administrative health data.

The use of community treatment orders (CTOs) is widespread and increasing. For instance, there were about 5000 people on CTOs in England in 2021–2022, about ten times the number that was initially estimated on their introduction.[1] In Australia, there were increases of up to 50% between 2005 and 2012, although this has since plateaued to an extent.[2] Alongside this increasing use, there are well-established variations in rates within and across countries. As an example, annual rates ranged from 66 per 100 000 population in the Australian state of Queensland to 112.5 per 100 000 in the state of South Australia in a recent comparison, despite similarities in legislation and health services.[2] Variations in the use of CTOs within the same jurisdiction have also been reported in New Zealand, England and Norway.[3–7] These findings suggest that someone who was placed on a CTO in one particular area might not have been in another.

In addition to unresolved questions around the variable and increasing rates of use there are also concerns about the utility of CTOs. A recent umbrella review of research on CTOs from North America, Taiwan, Europe, Australia and New Zealand highlighted continued uncertainty over the benefits of these orders in terms of subsequent health service use and psychosocial outcomes.[8] Importantly, the magnitude of any effect declined with increasing robustness of study design. Although uncontrolled studies reported reductions in in-patient admissions and bed-days, which are the end-points most often used by researchers to suggest utility of CTOs, more rigorous designs using matching or multivariate analyses reported mixed benefits, and randomised trials found no effect.[8,9] The same applied to clinical, psychosocial and forensic outcomes.[8] Of additional relevance are findings from a meta-regression of Australian and New Zealand studies showing an inverse relationship between state-wide rates of CTO placement and subsequent in-patient use.[10] Jurisdictions with low rates of CTO use were more likely to show reductions in re-admission rates or bed-days than those with higher rates. One hypothesis is that CTOs may be more likely to benefit males with non-affective psychosis, and that this group is more accurately targeted in low use areas.[10] However, comparisons across, rather than within, jurisdictions indicate that other factors – such as

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sociodemographic, environmental and legislative differences, as well as variations in service provision, staff resourcing, configuration or culture – may in fact explain these findings.

A New Zealand-wide study partly addressed this limitation by comparing effects in an on/off design within a single jurisdiction, using people placed on a CTO as their own controls.[10–12] Those on CTOs experienced fewer admissions and bed-days compared with when they were receiving treatment voluntarily. Importantly, this finding was largely explained by reductions in both of these outcomes in people with non-affective psychotic disorders. People with other diagnoses had increased admissions and bed-days. This suggested that CTOs may provide benefit for people with non-affective psychosis (at least as far as reducing admissions and bed-days may be regarded as a benefit). However, these findings were limited by aspects of the study design, including a lack of adjustment for potential confounders and the absence of comparisons with controls who were not on a CTO. In the absence of controls, it can be difficult to exclude the effects of regression to the mean or the natural history of psychiatric illness. For instance, if someone is placed on a CTO towards the end of an extended hospital stay, any subsequent improvement might merely indicate a return to pre-admission levels arising from the cyclical pattern of the underlying illness.[13]

Taken together, these findings raise the important question of whether a subgroup of people who are subject to CTOs are more likely to benefit and, if so, whether this subgroup comprises people with non-affective psychosis. In addition to the human rights issues of involuntary treatment with limited evidence of effectiveness, there is the possibility that other groups are potentially harmed by CTOs. The lack of benefit in some subgroups might therefore 'wash out' better outcomes in other subgroups, leading to the negative findings in previous studies.

To further test these hypotheses, we used anonymised administrative data from Queensland to study both factors and outcomes associated with CTO placement compared with controls treated voluntarily in the community The two outcomes of interest were subsequent admissions and in-patient bed-days. These outcomes, although imperfect indicators of utility, are the most common outcomes used in CTO research. We hypothesised that CTOs would be associated with reduced admissions and bed-days in people with non-affective disorders compared with those with other disorders.

Method

Setting

This study covered the entire state of Queensland, Australia. CTOs were regulated by the Mental Health Act 2016 (Qld) for the period covered by the study. This legislation replaced the Mental Health Act 2000 (Qld) and introduced changes including the appointment of Independent Patient Rights Advisers, a greater emphasis on capacity and the promotion of advance health directives.

Data and participants

We used linked state-wide administrative data that included all private and public hospital separations (patient discharges, transfers to another facility or deaths) and contacts with state mental health services (including public out-patient clinics) for the entire jurisdiction. The Queensland Hospitals Admitted Patients Data Collection provided information on in-patient services, and the Consumer Integrated Mental Health and Addiction Application gave details of the legal status of patients discharged into the community, as well as contacts with services.

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2013. All procedures involving human participants were approved by the Metro South Human Research Ethics Committee (HREC/2023/QMS/94340). This included a waiver of consent given the use of anonymised data. We registered the project with the Australian and New Zealand Clinical Trials Registry (ACTRN12624000152527) and followed guidelines for the STrengthening the Reporting of OBservational studies in Epidemiology.[14]

We identified all psychiatric in-patients who were discharged on to a CTO between 1 January 2018 and 1 December 2022. Only the first discharge within that time was included. For each case, we aimed to identify two controls who were discharged into the community on a voluntary basis, matched by age group (5-year age groups), sex and proximity to index discharge (±6 months). All participants were followed up for 12 months.

Analyses

We used bivariate and multivariate analyses to assess variables associated with CTO placement, including sociodemographic and clinical factors. This included marital status, employment, First Nations status, preferred use of a language other than English, and country of birth. In the case of country of birth, on the basis of previous findings, we compared people born in Australia, New Zealand and north-west Europe (including the UK and Ireland) with those from elsewhere.[15] We also considered metropolitan as opposed to rural residence and independent accommodation versus institutional care, boarding house or homelessness. We used primary diagnosis codes for index admissions and divided these into the following categories: substance use disorders (F10–19 except any .5 or .7 code); schizophrenia and other non-affective psychoses including drug-induced psychoses (F1x.5, F1x.7, F20–29); mood disorders (F30–39); anxiety and other non-psychotic disorders (F40–59); personality disorders (F60–69); and miscellaneous disorders (all other codes). Diagnosis was entered into regression models as a dichotomous variable. We also considered health service use including in-patient stays and out-patient contacts 1 year before the index date.

We initially compared differences in admissions and bed-days between CTO cases and controls in the 12 months following the index date for the whole sample. We used both outcomes as the meaning of admissions may be difficult to interpret. For instance, CTOs might reduce admissions so that individuals remain in their communities for treatment, or they might increase admissions as a result of earlier identification of relapse.[16,17] Interpretation of the meaning of admission may also differ by diagnosis. In the case of people with non-affective psychosis, avoiding an admission could be seen as positive, because the treatment (depot antipsychotic) can be administered and applied in the community. However, in the case of major depression, a CTO might facilitate admission and early intervention with electroconvulsive therapy. By contrast, the number of bed-days might be expected to be lower in most situations, either because the individual has been treated in the community or because early admission has prevented further worsening of their symptoms and thus a longer stay in hospital. We focused on outcomes at 1 year, given the difficulties of ascribing an effect on health service use beyond a year after initial placement.[18] We ran separate models for each of the diagnostic groups to investigate whether there were differences in admissions and bed-days by diagnosis.

We undertook two sensitivity analyses. Owing to the potential for overlap between country of birth and preferred use of a language

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Table 1 Factors associated with re-admissions over 12 months of follow-up

Factor	Not admitted ($n = 21\,751$) N	%	Admitted ($n = 10\,831$) N	%	Odds ratio	95% CI	Adjusted odds ratio[a]	95% CI	Significance
Single	12 171	56.0	6844	63.2	1.35	1.29–1.42	1.25	1.19–1.32	<0.001
No work, study or home duties	8973	41.3	5022	46.4	1.23	1.17–1.29	1.11	1.06–1.17	<0.001
First Nations	2314	10.6	1232	11.4	1.08	1.00–1.16	1.00	0.93–1.08	0.987
No independent residence	2215	10.2	1500	13.8	1.42	1.32–1.52	1.39	1.29–1.49	<0.001
Metropolitan area	9082	41.8	5285	48.8	1.33	1.27–1.39	1.33	1.26–1.39	<0.001
Country of birth outside Australia, New Zealand and north-west Europe	1876	8.6	913	8.4	0.97	1.90–1.06	0.94	0.85–1.03	0.168
Preferred language other than English	456	2.1	243	2.2	1.07	0.92–1.25	1.07	0.90–1.28	0.427
Non-affective psychosis	5860	26.9	4291	39.6	1.78	1.69–1.87	1.53	1.45–1.62	<0.001
Any psychiatric admission in previous 12 months	669	3.1	1111	10.3	3.60	3.26–3.98	2.98	2.69–3.30	<0.001
Any non-psychiatric admission in previous 12 months	10 444	48.0	5267	48.6	1.03	0.98–1.09	1.05	1.00–1.10	0.067
Pre-index psychiatric community contacts split by median	12 212	56.1	7163	66.1	1.52	1.45–1.60	1.24	1.18–1.30	<0.001
CTO case	6962	32.0	3910	36.1	1.20	1.14–1.26	0.98	0.93–1.04	0.538

a. Adjusted for all variables in the table.
CTO, community treatment order.

Table 2 Odds of admission for people on CTOs stratified by diagnosis

Diagnosis	Odds ratio	95% CI	Significance	Adjusted odds ratio[a]	95% CI	Significance
Non-affective psychoses	0.75	0.70–0.82	<0.001	0.77	0.71–0.84	<0.001
Mood disorders	1.26	1.14–1.39	<0.001	1.20	1.09–1.33	<0.001
Anxiety or other non-psychotic disorders	1.22	1.05–1.41	0.010	1.12	0.96–1.30	0.144
Personality disorders	0.85	0.65–1.12	0.260	0.79	0.59–1.06	0.114
Substance use disorders	1.29	0.99–1.70	0.060	1.22	0.92–1.61	0.165
All other diagnoses	1.17	1.02–1.36	0.031	1.05	0.91–1.32	0.511

a. Adjusted for all variables in Table 1.
CTO, community treatment order.

other than English, we investigated the effect of excluding each in turn in all the models. We also assessed the effect of removing cases of drug- induced psychosis from the non-affective psychosis group. Skewed data were either divided about the median for categorical data such as visits or logarithmically transformed for continuous data, adding 1 to each value because of zeros.[19]

Results

The sample consisted of 10 872 people on CTOs and 21 710 controls (total $n = 32\,582$). Fifty-one per cent were male ($n = 16\,867$) and 54% ($n = 17\,560$) were under the age of 39 years. The most common diagnosis was non-affective psychosis ($n = 10\,151$), representing 31.2% of the sample, followed by mood disorders (25.6%). Anxiety, somatoform and other non-psychotic disorders accounted for 17.5% of the sample ($n = 5693$), personality disorders 4.4% ($n = 1432$) and substance use disorders 3.5% ($n = 1139$). Just under 18% consisted of other diagnoses. Non-affective psychoses made up half of people on CTOs.

Supplementary Table 1 available at https://doi.org/10.1192/bjp.2025.10317 compares the baseline characteristics of the CTO cases and controls. In bivariate comparisons, CTO cases were more likely to live in a metropolitan area and less likely to be engaged in work, study or home duties. First Nation Australians and people who were born in countries outside Australia, New Zealand and north-west Europe were at greater risk of CTO placement, as were those whose preferred language was other than English. Diagnosis of non-affective psychosis also showed a significant association. In terms of health service use, CTO cases had greater numbers of both psychiatric admissions and out-patient contacts before the index date but were less likely to have had a non-psychiatric admission. We found similar results in the adjusted analyses, with the exception that CTO cases and controls had equal likelihood of a non-psychiatric admission.

Factors associated with admissions following CTO placement

Before adjustment, one-third of the sample ($n = 10\,831$) were re-admitted at least once in the year following the index date, and this was more likely to occur following CTO placement (Table 1). Other unadjusted variables associated with re-admission were single status; metropolitan residence; being less likely to be engaged in work, study or home duties; not living independently; non-affective psychosis and pre-index contact with mental health services. However, after adjustment for all covariates, CTO placement was no longer associated with re-admission. The results for the other variables were unchanged after adjustment (Table 1).

We then investigated the effects of CTOs stratified by diagnosis. Despite the increased odds of admission overall, people with non-affective psychosis on CTOs were less likely to be admitted than voluntary controls (Table 2). By contrast, admissions were the same or greater than those for controls for all the other diagnoses (Table 2). These findings were confirmed in subsequent adjusted analyses. In a regression model restricted to people with non-affective psychosis, CTO placement was associated with a reduced likelihood of re-admission (Table 2 and Supplementary Fig. 1). By contrast, CTO cases with mood disorders had increased odds of admission, whereas those with all other disorders had the same likelihood as the voluntary controls (Table 2 and Supplementary Fig. 1).

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Table 3 Factors associated with bed-days over 12 months of follow-up

	Unadjusted				Adjusted[a]				95% CI for B_{adj}	
Factor	*B*	s.e.	*t*	Significance	*B*	s.e.	*t*	Significance	Lower bound	Upper bound
Single	0.08	0.01	11.07	<0.001	0.04	0.01	6.65	<0.001	0.03	0.06
No work, study or home duties	0.09	0.01	13.90	<0.001	0.04	0.01	6.09	<0.001	0.03	0.05
First Nations	0.01	0.01	0.61	0.540	-0.02	0.01	−1.88	0.061	−0.04	0.00
No usual residence	1.00	0.01	9.49	<0.001	0.08	0.01	8.11	<0.001	0.06	0.10
Metropolitan area	0.09	0.01	13.59	<0.001	0.08	0.01	12.73	<0.001	0.07	0.10
Country of birth outside Australia, New Zealand and north-west Europe	0.01	0.01	1.055	0.291	0.00	0.01	−0.31	0.758	−0.03	0.02
Preferred language other than English	0.03	0.02	1.393	0.164	0.01	0.02	0.47	0.637	−0.04	0.06
Non-affective psychosis	0.22	0.01	31.44	<0.001	0.15	0.01	19.56	<0.001	0.13	0.16
Pre-index bed-days in previous 12 months	0.42	0.01	36.60	<0.001	0.30	0.01	25.13	<0.001	0.28	0.32
Any non-psychiatric admission in previous 12 months	0.00	0.00	4.376	0.001	0.00	0.00	3.65	0.001	0.00	0.01
Pre-index psychiatric community contacts split by median	0.25	0.01	37.93	<0.001	0.14	0.01	18.74	<0.001	0.12	0.15
CTO case	0.08	0.01	11.43	<0.001	0.00	0.01	0.65	0.515	−0.02	0.02

a. Adjusted for all variables in the table.
B, regression coefficient; B_{adj}, adjusted regression coefficient; CTO, community treatment order.

Table 4 Bed-days over 12 months of follow-up for people on CTOs stratified by diagnosis

	Unadjusted				Adjusted[a]				95% CI for B_{adj}	
Diagnosis	*B*	s.e.	*t*	Significance	*B*	s.e.	*t*	Significance	Lower bound	Upper bound
Non-affective psychoses	−0.11	0.01	−7.98	<0.001	−0.09	0.01	−6.94	<0.001	−0.11	−0.07
Mood disorders	0.11	0.01	7.91	<0.001	0.09	0.01	6.03	<0.001	0.06	0.13
Anxiety or other non-psychotic disorders	0.07	0.02	3.94	<0.001	0.04	0.02	2.13	0.033	0.00	0.07
Personality disorder	0.01	0.04	0.36	0.717	0.01	0.03	0.14	0.887	−0.06	0.07
Substance use disorders	0.08	0.03	2.51	0.012	0.07	0.03	2.21	0.027	0.01	0.14
All other diagnoses	0.05	0.02	3.28	<0.001	0.02	0.01	1.03	0.306	−0.01	0.04

a. Adjusted for all variables in Table 3.
B, regression coefficient; B_{adj}, adjusted regression coefficient; CTO, community treatment order.

Factors associated with bed-days following CTO placement

Individuals with CTOs spent an average of 2.4 more days in hospital than controls in the year following the index date, a result that was statistically significant in both unadjusted and adjusted analyses of the log-transformed variable (Table 3). Other variables associated with increased bed-days were the same as those previously observed for admissions (Table 3). When stratified by diagnosis, and in spite of the increased number of bed-days overall, individuals in CTO cases with non-affective psychoses spent significantly less time as in-patients than controls (Table 4 and Supplementary Fig. 2). By contrast, individuals with CTOs experienced significantly more bed-days in cases of mood, anxiety, other non-psychotic and substance use disorders (Table 4 and Supplementary Fig. 2). There were non-significant differences when the remaining diagnosis was considered (Table 4 and Supplementary Fig. 2).

Sensitivity analyses

We found similar results for all the models when we investigated the effect of excluding either country of birth or use of a language other than English. For instance, the adjusted odds of re-admission for CTO cases were unchanged when we excluded either variable. Similarly, removing cases of drug-induced psychosis ($n = 2177$) from the non-affective psychosis group ($n = 7974$) made no difference to the reductions seen in both admissions (adjusted odds ratio = 0.77; 95% CI: 0.70–0.85; $P < 0.001$) and bed-days ($B = -0.09$, s.e. = 0.02, $t = -5.86$; $P < 0.001$) for this diagnosis.

Discussion

To our knowledge, this is the first jurisdiction-wide study to investigate the effects of CTOs on admissions or bed-days by psychiatric diagnosis with a controlled design and adjusted analyses. The design of the present study may have lessened the possibility of regression to the mean and maturation effects that can be seen in studies without controls. Such effects are reflected in meta-analytical findings in which pooled results from uncontrolled studies are greater than those with controls in studies of CTOs, as well as a range of other psychological, educational and behavioural interventions.[20,21] Although controlled before-and-after studies have their own unique limitations (see below), they can complement before-and-after, on/off or randomised controlled trial (RCT) designs and so give a more comprehensive picture.

As has been consistently reported in the literature, CTO use in this study was disproportionately greater in people from First Nations or culturally diverse backgrounds.[15] This may be related to a lack of culturally appropriate care, perceived discrimination and social isolation, all leading to later care.[22–24]

Importantly, our results suggest that CTOs may reduce bed-days and re-admissions only for people with non-affective psychosis, not those with other diagnoses. These individuals accounted for only half of all the CTO cases. The reasons for such a differential effect are unclear. One possibility is that these individuals are more likely to be on depot antipsychotic medications than other diagnostic groups and that CTOs may be particularly effective in ensuring adherence to these. However, there is no randomised trial evidence that CTOs improve adherence to

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depot medication,[25] and depot medication was not shown to reduce re-admissions in the RCT from the UK.[26] Furthermore, CTO status did not explain the higher rates of depot prescription in people with non-affective psychosis in the New Zealand-wide data.[12] Given the uncertainty of explanations for the differential effects of CTOs in people with non-affective psychosis, it is also unclear whether high-quality non-coercive assertive outreach might not achieve the same or better results, while aligning with human rights.

Our findings of a differential effect should be interpreted with caution given the non-significant results from the three RCTs in which the vast majority of participants also had non-affective psychosis.[27–29] It is possible that the present findings are more reflective of clinical practice than those from the RCTs, given that perceived dangerousness was an exclusion factor in two,[27,28] whereas in the third RCT,[29] comparisons were made with an extended leave group rather than entirely voluntary care. There were also issues around participant attrition and cross-over between study arms. These reflect the difficulties of conducting RCTs for complex interventions such as CTOs. In addition, there is evidence that some community samples contain a higher proportion of people with diagnoses other than non-affective psychosis.[12,15]

As with other cohort designs from Australia, CTOs did not reduce admissions or bed-days over the subsequent 12 months when all diagnostic groups were considered.[15] These findings reflect those of most non-randomised studies using appropriately matched controls from around the world.[8,13] They also suggest that any reduction found in those with non-affective diagnoses may be washed out by other clinical groups, who are being subject to a CTO without benefit (at least by our end-points).

Limitations

As with all studies, the present study was limited by a number of factors related to design. Despite the comprehensive scope of data obtained through linkage, this was a study of administrative health data, which may have been subject to recording bias. Furthermore, we could not adjust for variables such as insight, forensic history, social disability or perceived dangerousness. We also relied on proxy indicators such as place of birth and preferred language to determine ethnic background. In addition, we could have missed second- and third-generation immigrants who may still identify as culturally and linguistically diverse. We also had to combine disparate countries because of limited numbers, and this may have obscured important differences. For instance, the UK and Ireland were included under north-west Europe. In the case of New Zealand, our data did not distinguish individuals from Māori or *pākehā* backgrounds, whereas previous findings indicate that the former have a greater likelihood of CTO placement.[30]

In terms of outcomes, individuals in cases may still have been more severely ill than the voluntary controls, even though we attempted to adjust for important covariates. Notably, CTO cases experienced a greater number of pre-index psychiatric admissions and out-patient contacts. It is also possible that cases and controls differed in other ways for which it was not possible to match or adjust. Our significant findings may therefore be a consequence of limited methodology. Furthermore, comparisons were against standard community care; the same effect might not have been seen if CTOs had been compared with other forms of assertive outreach. In addition, we did not directly compare actual time spent on a CTO with being on voluntary treatment. Our end-points were limited to admissions and bed-days, rather than clinical or psychosocial outcomes that might be more important for people with a mental illness. As noted previously, the meaning of reduced admissions can be debated as an outcome; this is why bed-days were also considered, as the interpretation is clearer.

Last, our findings may have been affected by the COVID-19 pandemic. However, there is no evidence that the pandemic greatly affected the delivery of care for people with severe mental illness. For instance, COVID-19 restrictions had no significant impact on the prescription of antipsychotics for Australians with schizophrenia compared with similar periods in previous years.[31] In addition, our findings of greater CTO benefit in people with psychosis are consistent with those of before-and-after studies in which data were collected before the pandemic.[11,12]

Implications

Our findings may have important clinical and policy implications for increasing the equitable and effective use of CTOs. First, we found that First Nations Australians and those from culturally or linguistically diverse backgrounds were more likely to be placed on CTOs. This highlights the need for improved cultural awareness and sensitivity. Second, if effective at all, CTOs may be associated with reduced admission and bed-days only in people with non-affective psychosis. Although this requires further study, we believe this may be of relevance beyond Australia, as other jurisdictions including New Zealand, England, Scotland and Canada have similar clinician-initiated orders. This signal of a differential effect in people with non-affective psychoses might therefore suggest that law and policy makers should consider targeting CTOs to this group, particularly in jurisdictions where use extends to a wider range of diagnoses. For instance, accompanying guidance and training materials for clinicians could be rewritten to better reflect the results of this study.

Our results may also have important implications for psychiatric practice, particularly in guiding the judicious use of CTOs. Although the data suggest that CTOs may reduce admissions and bed-days for individuals with non-affective psychosis, this benefit was not observed across other diagnostic groups. Practising psychiatrists should therefore integrate these findings into clinical decision-making by engaging in transparent discussions with patients and their families about the likely outcomes of CTO placement. For individuals with non-affective psychosis, CTOs may offer a structured framework for early intervention, especially in cases in which insight is compromised and timely hospital access is critical. However, this potential advantage must be weighed against the coercive nature of CTOs and the ethical imperative to minimise restrictive practices. Clinicians should therefore consider CTOs only when less restrictive alternatives have been exhausted and when there is a reasonable expectation of benefit.

In addition, we found that First Nations people and those from culturally or linguistically diverse backgrounds were more likely to be placed on CTOs. Targeting CTO use to people with non-affective psychosis would both address rising CTO rates and mean that people placed on these orders derive potential benefit. As it seems unlikely that CTOs will be discontinued, efforts should be directed at more appropriate and effective use if that is possible.

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Supplementary material

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Data availability

A study protocol is registered with the Australian and New Zealand Clinical Trials Registry (ACTRN12624000152527). Due to privacy, ethical and legal considerations, the data cannot be shared without direct approval from relevant data custodians at Queensland Health. This is because the linked administrative data used in this study are owned by the respective government agencies and so cannot be made available to third parties. The programming code used to analyse the data is available on request.

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Author contributions

S.K. had the original idea for the paper. S.K. and C.B. applied for data access. S.K. performed the analysis and wrote the first draft, which was then revised critically for important intellectual content by all other authors. All authors were involved in applying for funding, project administration and study design.

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Declaration of interest

S.K. is a member of the International Editorial Board of the *British Journal of Psychiatry*, *BJPsych Open* and *BJPsych International*. However, S.K. did not take part in the review or decision-making process for this submission to the *British Journal of Psychiatry*.

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