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# Cultural and linguistic diversity increases the likelihood of compulsory community treatment

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ABSTRACT

*Background:* People from culturally and linguistically diverse (CALD) backgrounds are over-represented in compulsory admissions to hospital but little is known about whether this also applies to community treatment orders (CTOs).
*Aims:* We investigated any differences between Australian- and foreign-born patients in the likelihood of CTO placement using state-wide databases from Western Australia.
*Methods:* Cases and controls from administrative health data were matched on age, sex, diagnosis and time of hospital discharge (the index date). Logistic regression was then used to identify potential predictors of a CTO. We also assessed if any differences in CTO placement between Australian- and foreign-born patients had effects on bed-days or community contacts in the subsequent year.
*Results:* We identified 2958 CTO cases and controls from November 1997 to December 2008 (total $n = 5916$). Of these, 74% had schizophrenia or other non-affective psychoses. Patients who were born in New Zealand, the United Kingdom or Ireland had very similar rates of CTO placement compared to those who were Australian-born. By contrast, there was a gradient of increasing risk of CTO placement for people born in Continental Europe ($OR_{adj} = 1.36$; 95% CI = 1.07–1.71, $p = 0.01$) and then the Rest of the World ($OR_{adj} = 1.61$; 95% CI = 1.31–1.97, $p < 0.001$). However, there was no evidence of additional benefit in terms of health service use in the following year.
*Conclusions:* In common with other coercive treatments, people from culturally and linguistically diverse (CALD) backgrounds are more likely to be placed on CTOs. Further research is needed to establish if this is for similar reasons.



## 1. Introduction

Minority populations including immigrants, refugees, and ethnic minorities are more likely to experience involuntary psychiatric treatment. For instance, British studies have shown that patients of African-Caribbean and South Asian backgrounds are significantly more likely to experience compulsory admission to psychiatric inpatient units (Bhui et al., 2003; Tortelli et al., 2015; Weich et al., 2014). These findings are only partly explained by higher rates of psychotic disorders in the same population as reported in both hospital and register data (Tortelli et al., 2015). Indeed, patients of black ethnicity are almost three times more likely to be admitted on a compulsory basis than the general population (Kisely, 2000). Similar findings have been reported from other European nations such as the Netherlands (Mulder et al., 2006), Switzerland (Lay et al., 2006) and the Scandinavian countries (Hustoft et al., 2013; Norredam et al., 2010). In the United States, African-Americans are more likely to be admitted for schizophrenia (Rost et al., 2011), particularly to state psychiatric hospitals (Barnes, 2004).

There is less information from Australia even though 27% of the population were born overseas (Straiton et al., 2014). People from New Zealand and the United Kingdom have historically formed the largest individual groups (Straiton et al., 2014). However, changing patterns of immigration mean that the majority of foreign-born Australian residents are from culturally and linguistically diverse (CALD) backgrounds (Straiton et al., 2014).

Studies on rates of mental illness give mixed findings depending on the setting and method. Community based studies generally indicate

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similar or lower rates of mental illness among people of CALD backgrounds compared to the Australian-born population, suggestive of the healthy migrant effect, although this finding is not universal (Straiton et al., 2014). Depending on the study, rates between Australian- and foreign- born people of English speaking backgrounds are generally similar (Straiton et al., 2014).

In terms of health service use, people from CALD backgrounds have fewer inpatient admissions or outpatient contacts although rates of involuntary admission are higher (Straiton et al., 2014). When they are in treatment (inpatient or outpatient), this is more likely to be for psychosis than in the general population (Stolk et al., 2008). The picture is also complicated by differences within people from different CALD backgrounds (Bruxner et al., 1997). For instance, admission rates of European migrants approximate to those of Australian-born individuals overtime, in contrast to those of migrants from South-East Asia (Stuart et al., 1998).

By contrast, there is very little information on people from English speaking backgrounds who were born overseas (Straiton et al., 2014). One study suggested that migrants born in the British Isles had lower rates of involuntary admission than Australian-born patients (Bruxner et al., 1997), while another found no difference on any measure of health service use between Australia-born and foreign born people from an English- speaking background (Straiton et al., 2014).

There is even less information on compulsory treatment in the community. Clinician-initiated community treatment orders (CTOs) are used in Australia, New Zealand, Canada and some European countries such as Scotland, England, Denmark, Norway and Switzerland (Rugkåsa, 2016). A study from Scotland reported a two to four-fold increase in the use of CTOs compared to the general population depending on the specific CALD background (Bansal et al., 2014). However, these particular findings were not adjusted for demographic and socio-economic indicators such as age, housing tenure and car ownership, although other outcomes were. An Australian study found that being born outside of the country was associated with a greater risk of being placed on compulsory community treatment after adjusting for other relevant demographic and clinical factors (Kisely et al., 2015). However, this analysis did not differentiate between countries and examine whether people born in countries such as the United Kingdom or New Zealand had different rates from those coming from Africa or Asia. A third study from Canada was restricted to consideration of the qualitative experience of being on a CTO for people from a CALD background (Mfoafo-M' Mfoafo-M'Carthy, 2014).

By contrast, in the United States, a judge rather than a clinician orders outpatient commitment (OPC). Again, information is limited. An early finding that African-Americans were over-represented among OPC cases was related to socio-economic disadvantage, decreased access to health insurance, and a greater chance of being treated in the public mental health system, especially as an inpatient (Swanson et al., 2009). A subsequent study did not find that African-Americans were more likely to be placed on OPC on bivariate analyses (Galon et al., 2012). However, multivariate analyses were not conducted for this outcome (Galon et al., 2012). In addition, there was no information on other minorities, and findings from court-ordered outpatient commitment may not be generalisable to jurisdictions where orders are made by clinicians, or to countries with universal health care.

We therefore undertook a study of anonymised administrative data to assess equity of access to psychiatric care for people from CALD backgrounds in Australia. All patients on a CTO were compared with a control group not on a CTO with particular reference to their country of birth while controlling for other patient characteristics and previous health service use. In particular, we wanted to establish if they are over-represented in being placed on coercive psychiatric treatment in the community after adjustment for relevant clinical and socio-demographic factors. We also assessed if any differences in CTO placement had any effects on subsequent health service use.

## 2. Methods

These are described in more detail elsewhere (Kisely et al., 2015) and followed guidelines for the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) (Vandenbroucke et al., 2007). Administrative data in Western Australia were used to identify all patients commenced on a CTO from their introduction in November 1997 till the end of 2008, as well as controls matched on age, sex, diagnosis and time of hospital discharge (the index date). For the limited number of community placements, we used commencement of the order as the index date (Kisely et al., 2006).

These state-wide databases cover all inpatient episodes and community contacts. Records submitted to the data linkage unit are audited to maintain the quality of the information and, when necessary, returned for review. The linked database was created in 1995, although components date to as far back as 1966 (Lawrence et al., 2000). Data collection is standardised, uniform and comprehensive with the least complete sociodemographic variable still present in 99.99% of records (Morgan and Jablensky, 2010; Holman et al., 1999). A further validation study reported high sensitivity and specificity for both schizophrenia and affective psychosis (Jablensky et al., 2005).

We initially used bivariate analyses to compare the effect of different regions of origin on CTO placement. In particular, we undertook a more detailed analysis of the effect of what country they were born in, not simply in or out of Australia. We then compared people born in Australia, New Zealand or the British Isles with those from elsewhere. Next, we calculated adjusted odds ratios for the contribution of each variable to CTO placement while controlling for other possible factors by means of logistic regression. These included other relevant demographic factors (marital status, education, rural residence, Indigenous status), diagnosis, and the year of study entry in case there were secular trends in CTO use. We considered health service use as well including inpatient stays and outpatient contacts one year prior to the index date. We also did a forward stepwise analysis.

Lastly, we used multiple regression to investigate whether any differences in CTO placement between patients of different countries of birth had any effect on health service use in the following year. In particular, we used interaction terms of CTO placement and country of birth to investigate whether the latter had any influence on effects of CTO placement. We compared changes in bed-days and outpatient contacts between CTO cases and controls in the year before, and after, the index dates (Kisely et al., 2013).

## 3. Results

### 3.1. Descriptive statistics

Our sample consisted of 2958 patients and the same number of controls (total $n = 5916$). Matching was successful, both groups sharing the same characteristics for age, sex and diagnosis. They were therefore predominately male (67.3%) with an average age of 36.3 years. Three-quarters had schizophrenia or other non-affective psychoses ($n = 2172$), followed by 14% with affective disorders ($n = 425$), and then a small number of drug-induced or organic conditions.

### 3.2. Bivariate comparisons of the proportion of patients on CTOs by country of birth

Table 1 compares the number of CTO cases in Australian-born patients with those born overseas. Comparison areas are ranked by ascending proportions of CTO placements. Patients who were born in New Zealand, the United Kingdom or Ireland had very similar odds of CTO placement compared to those who were Australian-born. There was a gradient of an increased likelihood of CTO placement for people born in Continental Europe and then the Rest of the World with patients from the Pacific Islands having the highest odds (Table 1).

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