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ORIGINAL ARTICLE

Ethnicity as a predictor of detention under the Mental Health Act

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Background. There has been major concern about the 'over-representation' of Black and ethnic minority groups amongst people detained under the Mental Health Act (MHA). We explored the effect of patient ethnicity on detention following an MHA assessment, once confounding variables were controlled for.

Method. Prospective data were collected for all MHA assessments over 4-month periods in the years 2008, 2009, 2010 and 2011 each in three regions in England: Birmingham, West London and Oxfordshire. Logistic regression modelling was conducted to predict the outcome of MHA assessments – either resulting in 'detention' or 'no detention'.

Results. Of the 4423 MHA assessments, 2841 (66%) resulted in a detention. A diagnosis of psychosis, the presence of risk, female gender, level of social support and London as the site of assessment predicted detention under the MHA. Ethnicity was not an independent predictor of detention.

Conclusions. There is no evidence for that amongst those assessed under the MHA, ethnicity has an independent effect on the odds of being detained.

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Key words: Coercion, ethnic minority, Mental Health Act, psychosis, risk, transcultural psychiatry.

Introduction

For over two decades there has been concern about the large number of people from Black and ethnic minority (BME) groups being compulsorily detained for psychiatric treatment in UK, Europe and America (Claassen *et al.* 2005; Compton *et al.* 2006; Lay *et al.* 2007; Singh *et al.* 2007; Swanson *et al.* 2009; Vinkers *et al.* 2010). This excess has been observed for both civil (Bebbington *et al.* 1994; Davies *et al.* 1996; Singh *et al.* 1998; Burnett *et al.* 1999; Morgan *et al.* 2005; Lawlor *et al.* 2012) and forensic detentions (Dunn & Fahy, 1990; Banerjee *et al.* 1995; Maden *et al.* 1999) and has been confirmed in several reviews, which have also found inter- and intra-ethnic variations in detention rates between different BME groups and between first-episode and chronic disorders (Churchill *et al.* 1999; Bhui *et al.* 2003; Morgan *et al.* 2004; Singh *et al.* 2007). BME patients have a higher readmission rate following an index detention (Priebe *et al.* 2009), and their level of dissatisfaction with services increases with repeated admissions (Parkman *et al.* 1997).

The most recent meta-analyses found that compared with White patients, Asian patients are approximately twice as likely, and Black patients nearly four times as likely to be detained. Some studies have, however, found that the higher risk of detention amongst minority patients is considerably reduced or even eliminated if sociodemographic, clinical and care pathway differences are taken into account (Bebbington *et al.* 1994; Cole *et al.* 1995; Lawlor *et al.* 2012).

The reasons for high rates of detention have been extensively debated and include misdiagnosis in minority groups; services lacking cultural sensitivity; clinical differences such as higher rates of psychosis and more challenging behaviour in minority patients; greater stigma, mistrust and lesser satisfaction with services amongst minority groups; and racial stereotyping or discrimination against minority patients (for a review, see Singh *et al.* 2007). The most commonly cited explanations in the literature are 'ethnicity/race-related', with 55% of all papers published in the UK on this topic attributing the excess detention of minority patients to discrimination, labelling and stereotyping by psychiatrists, or as a manifestation of

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institutional racism in psychiatry (Singh *et al.* 2007). The Sainsbury Centre for Mental Health has argued that 'Black people mistrust and often fear services, and staff are often wary of the Black community, fearing criticism and not knowing how to respond, and fearful of young Black men. The cycle is fuelled by prejudice, misunderstanding, misconceptions and sometimes racism' (The Sainsbury Centre for Mental Health, 2002). In the run up to the Mental Health Act (MHA) 2007 amendments, similar concerns were expressed that the changes in Mental Health law in England and Wales (2007 Amendments to the 1983 Act) would have a disproportionately negative impact on BME patients (Patel & Heginbotham, 2007).

Studies of BME detention have so far compared ethnic groups amongst cohorts of detained patients. A more appropriate denominator to determine predictors of detention is the population that is assessed under the MHA, only some of whom are detained. Detention occurs if a patient meets legal criteria for being detained: evidence of a mental illness, presence of risk, and no alternative to in-patient care. Detention is a function of assessment. Therefore differences between detained and non-detained patients should be explored within a cohort of patients who have undergone assessment under the MHA. However, there are no studies in the psychiatric literature of who gets assessed under the MHA and what factors determine detention as an outcome of such an assessment.

We explored the effect of ethnicity on the risk of detention following an MHA assessment once confounding variables were controlled for. We used data from the Department of Health-funded AMEND study. AMEND aims to explore changes that have occurred in clinical practice, service availability and user, carer and professionals' experience following the 2007 Amendments to the 1983 MHA. As a part of the study, prospective data were collected from three areas of England between 2008 and 2011.

Method

Data were collected on all MHA assessments conducted between July and October in the years 2008, 2009, 2010 and 2011 in Birmingham, Oxfordshire and Central and West London. The 2008 cohort was assessed under the 1983 MHA, the 2009 cohort soon after the introduction of the 2007 MHA, and the 2010–2011 cohorts after clinical experience of the new (2007) Act had been established. Separate ethical approvals were obtained from West Midlands Research Ethics Committee and Birmingham City Council Ethics Committee.

Definition of assessment

An MHA assessment was defined as any clinical encounter where an Approved Social Worker (ASW, as defined in the 1983 MHA) or an Approved Mental Health Professional (AMHP, as defined in the 2007 MHA) were involved or invited, or where at least one medical recommendation for detention had been completed, regardless of the outcome of the assessment (detention, voluntary admission or no admission).

Data sources

Details of all assessments are recorded by ASWs and AMHPs on structured MHA monitoring forms. Data collected on these forms include demographics information on age, gender and ethnicity; current MHA status of the patient; location of assessment; and outcome of the assessment. The forms also record information on previous admissions, circumstances leading to current assessment, record of interview with the patient, carers and other professionals, assessment of risk, social situation, and reasons for final decision made, including consideration of alternatives to hospitalization.

Defintions

Ethnicity

Self-assigned ethnicity is recorded in both MHA monitoring forms and hospital records. Four broad ethnic groups were created for the purpose of analysis: White (including Irish and other Europeans), Black Caribbean and Black African, Asian (including Indian, Pakistani, Bangladeshi and Sri Lankan) and Other (including Chinese and Vietnamese). Mixed-race individuals were included in the 'other' category if they were not assigned to Black, White or Asian categories in the MHA or medical records. Patients who had refused to give a self-assigned ethnicity and for whom no ethnicity was recorded were classed as missing and removed from the analysis.

Diagnosis

The 1983 MHA had four categories of mental disorders: mental illness, mental impairment, severe mental impairment and psychopathic disorder. The 2007 MHA Amendment provided a single category of mental disorder. To ensure equivalence of diagnostic categories, we confirmed psychiatric diagnosis of all cases assessed under the 2007 MHA (2009–2011 cohorts) from medical records and categorized these into the appropriate legal category under the 1983 Act, as described in Table 1.

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Table 1. *Mental Health Act 1983 legal categories and equivalent psychiatric diagnoses*

Legal category	ICD-10 diagnostic category
Psychopathic disorder	F10–19[a]: mental and behavioural disorders due to psychoactive substance use F60–69[a]: disorders of adult personality and behaviour
Mental impairment and severe mental impairment	F70–79: mental retardation F80–89: disorders of psychological development
Mental illness	F00–09: organic, including unspecified organic or symptomatic mental disorders F20–29: schizophrenia, schizotypal and delusional disorders F30–39: mood (affective) disorders F40–49: neurotic, stress-related and somatoform disorders F50–59: behavioural syndromes associated with physiological disturbances and physical factors
No equivalent (cases excluded)	F90–98[a]: behavioural and emotional disorders with onset usually occurring in childhood and adolescence F99[a]: unspecified mental disorder
No confirmed diagnosis	Any diagnosis present, but ICD-10 code not under categories F00–99

ICD-10, International Classification of Diseases, 10th revision.
[a] Cases in the absence of mental illness only.

Risk

Data on risk were obtained from MHA monitoring forms in the following categories: self-harm, self-neglect, deterioration in mental state, harm to other people, harm to property, and harm to vulnerable others. Where data on risk were not recorded, no risk was assumed for that category, unless all six risks were missing. Where all risk data were missing, the case was excluded from analysis.

Data collection

Before starting data collection, researchers met all ASWs/AMHPs in the study sites to describe the study and request adequate recording and storing of information for study purposes. Data were prospectively collected each year for all three sites through the MHA monitoring forms from AMHPs/ASWs. Members of the research team made regular contact with clinical teams, to cross-check information provided by ASWs/AMPHs. Data from mental health monitoring forms were cross-checked with data kept by Trusts on all patients who were admitted to mental health units on a compulsory basis. To ensure reliable data collection, a consistent coding regimen was used and all assessments were cross-checked with the dataset of MHA assessments held by social services. For each site, hospital records and electronic databases were used to retrieve missing data where possible.

Data analysis

Descriptive statistics for all variables were calculated and χ^2 tests were conducted to identify sociodemographic and clinical variables that statistically differed between assessments which did and did not result in detention. To investigate differences between ethnic groups χ^2 tests were also conducted. Variables thus identified were then checked for collinearity using Pearson's correlation with each of the other factors, then once established as non-collinear, were used to model detention using logistic regression. Variables were identified as categorical where appropriate and entered or removed from the model using a stepwise method comparing the change in the likelihood ratio for each new model against the old (variable entered if $p<0.05$). Missing data were excluded in a listwise manner from the model. Finally, odds ratios (ORs) and 95% confidence intervals (CIs) were computed for each individual category. All analyses were conducted using SPSS (version 20, IBM, USA).

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Table 2. *Comparison by ethnicity of the sociodemographic and clinical profile of patients assessed under the Mental Health Act*[a]

Variable, *n* missing (% total)	Category	All ethnicities, *n* (%)	White, *n* (%)	Black, *n* (%)	Asian, *n* (%)	Other, *n* (%)	χ^2	*p*	Ethnicity missing, *n* (%)
Ethnicity, 148 (3.3)		4275 (100.0)	2634 (61.6)	827 (19.3)	446 (10.4)	368 (8.6)	–	–	148 (3.3)
Outcome of assessment, 119 (2.7)	Not detained	1414 (33.8)	919 (35.5)	234 (28.9)	157 (36.5)	104 (29.0)	17.467	0.001	49 (33.1)
	Detained	2773 (66.2)	1668 (64.5)	577 (71.1)	273 (63.5)	255 (71.0)			68 (45.9)
Risk, 947 (21.4)	At risk	3080 (90.6)	1940 (90.6)	586 (91.7)	325 (90.5)	229 (88.1)	2.867	0.413	70 (90.9)
	Not at risk	319 (9.4)	201 (9.4)	53 (8.3)	34 (9.5)	31 (11.9)			7 (9.1)
Living status, 767 (17.3)	With family	1268 (35.7)	761 (34.2)	187 (27.8)	232 (64.3)	88 (30.1)	158.254	< 0.001	25 (29.4)
	Alone	1794 (50.5)	1145 (51.5)	391 (58.1)	102 (28.3)	156 (53.4)			47 (55.3)
	Supported accommodation	157 (4.4)	102 (4.6)	31 (4.6)	13 (3.6)	11 (3.8)			6 (7.1)
	Homeless	216 (9.7)	64 (9.5)	14 (3.9)	37 (12.7)	14 (3.9)			6 (7.1)
Diagnosis, 865 (19.6)	Mental illness	2703 (78.3)	1598 (75.4)	559 (84.2)	310 (84.7)	236 (77.4)	46.541	<0.001	8 (7.7)
	Psychopathic disorder	361 (10.5)	268 (12.6)	44 (6.6)	21 (5.7)	23 (9.2)			77 (74.0)
	Mental impairment	78 (2.3)	60 (2.8)	8 (1.2)	3 (0.8)	7 (2.3)			3 (2.9)
	No confirmed diagnosis	193 (9.1)	193 (9.1)	53 (8.0)	32 (8.7)	34 (11.1)			16 (15.4)
Age group, 79 (1.8)	Under 30 years	1104 (26.2)	577 (22.2)	238 (29.2)	148 (33.9)	141 (38.6)	68.402	<0.001	21 (16.9)
	30 years and older	3116 (73.8)	2027 (77.8)	576 (70.8)	289 (66.1)	224 (61.4)			103 (83.1)
Gender, 7 (0.2)	Female	1856 (43.5)	1186 (45.1)	356 (43.1)	167 (37.4)	147 (40.1)	11.025	0.011	63 (42.9)
	Male	2413 (56.5)	1444 (54.9)	470 (56.9)	279 (62.6)	220 (59.9)			84 (57.1)
Site of recruitment, 0 (0)	London	1963 (45.9)	1080 (41.0)	501 (60.6)	120 (26.9)	262 (71.2)	614.071	<0.001	262 (71.2)
	Birmingham	1239 (29.0)	360 (23.9)	265 (32.0)	274 (61.4)	70 (19.0)			70 (19.0)
	Oxford	1073 (25.1)	924 (35.1)	61 (7.4)	52 (11.7)	36 (9.8)			36 (9.8)

[a] χ^2 test results are shown for each variable against ethnicity for non-missing cases.

Results

There were 4423 MHA assessments across the four sites during the study period, 2841 (66%) of which resulted in detention. Ethnicity data were missing on 148 cases (3.3%), which were excluded from subsequent analysis. Table 2 shows the sociodemographic and clinical profile of the cohort, year of assessment and outcome (detention under the MHA) categorized by ethnicity. Univariate analyses showed that all considered variables were significantly associated with detention ($p<0.005$ for all variables) and there were significant differences between ethnic groups in age, gender, diagnosis, living status, site, and outcome of assessment. There were no ethnic differences in the proportion of patients deemed to be 'at risk'. However risk was entered as a predictor variable since the presence of risk is a key criterion for being detained under the MHA.

Table 3 presents results of the multiple logistic regression, showing the independent effects of each of the predictor variables on the odds of being detained. Having a serious mental illness increased the odds of detention over five-fold compared with having no confirmed psychiatric diagnosis. Those with psychopathic disorder had approximately twice the odds of being detained, whilst a diagnosis of mental impairment increased the odds of detention to 3.4 times as compared to those with no confirmed diagnosis. Patients assessed in London had nearly twice the odds of being detained as those in Birmingham or Oxford. Women were at a slightly higher odds (OR 1.3, 95% CI 1.10–1.54) of being detained. Those aged over 30 years were also more likely to be detained than those aged under 30 years. The social situation (or living status) also had a significant effect on the outcome of detention, with those in supported accommodation having 1.8 times the odds of being detained than those living with friends or family (95% CI 1.14–2.86). There was no significant effect of ethnicity on the odds of detention and hence this does not appear in the final model.

To understand which variables adjusted the effects of ethnicity, the regression model was then conducted again, with the variable in two 'blocks'. One forced the ethnicity variable to remain in the model at all times (using the ENTER method) whilst the other variables were added to the model sequentially (using the stepwise method as explained above). Ethnicity remained a significant predictor variable until the site of assessment was added to the model in step 2.

Table 4 shows the number and proportion of assessments resulting in detention at each of the three sites by the ethnic group of the patient. Detention rates were highest in London, with nearly three out of every four assessments resulting in detention. Oxford and Birmingham had similar overall proportions of detention, with around three out of five assessments resulting in the patient being detained. London also detained the highest number of patients: over double the number of patients than Oxford. However, this large number of detentions is not uniformly split between ethnic groups: Birmingham detained (and assessed) the largest number of Asian patients, with London responsible for the largest number of assessments of Black patients.

Table 5 illustrates that ethnicity is no longer a significant predictor of detention once assessment site effects are controlled for. Here, site remains an important predictor variable ($p<0.001$), with London remaining the site with the highest odds of detention.

Table 3. *Multiple logistic regression showing the independent effect of predictor variables on the odds of being detained under the Mental Health Act*

Predictor variable	OR	(95% CI)
Female**	1.308	(1.101–1.554)
Over 30 years old**	1.353	(1.113–1.643)
Living status*		
Living with friends or family	1	Ref.
Homeless	1.225	(0.842–1.781)
Living alone	0.963	(0.799–1.161)
Supported accommodation	1.804	(1.140–2.855)
Diagnosis**		
No psychiatric diagnosis	1	Ref.
Psychopathic disorder	2.232	(1.566–3.179)
Mental illness	5.473	(4.134–7.245)
Mental impairment	3.434	(1.956–6.030)
Presence of risk**	5.758	(4.203–7.888)
Site of assessment**		
London	1	Ref.
Oxfordshire	0.515	(0.412–0.644)
Birmingham	0.508	(0.410–0.629)

OR, Odds ratio; CI, confidence interval; Ref., reference.
* $p<0.05$, ** $p<0.01$.

Discussion

This is the first ever study of a large cohort of patients from several sites prospectively assessed under the MHA over 4 years. We collected data on 4423 assessments under the MHA in three regions (Birmingham, Oxfordshire and Central and West London), of which 2841 (66%) resulted in a detention under the Act. In univariate analyses, ethnic groups differed in gender, diagnosis, age, living status, site of assessment and detention. In the logistic regression, a diagnosis of

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Table 4. *Number of detentions by ethnic group (% of assessments of ethnic group) at each site*[a]

	Ethnicity				
Site	White	Black	Asian	Other	All detentions
Birmingham	376 (64.2)	161 (61.5)	155 (58.5)	39 (56.5)	731 (60.4)
Oxford	536 (57.1)	44 (72.1)	37 (71.2)	24 (66.7)	631 (59.0)
London	785 (73.4)	378 (76.4)	82 (72.6)	195 (75.0)	1440 (74.3)
All sites	1687 (64.8)	583 (71.3)	274 (63.7)	258 (70.7)	2802 (66.4)

[a] There is a significant association between the two variables (χ^2=345.666, p<0.001).

Table 5. *Three multiple logistic regression models showing the effects of ethnicity and site of assessment on the odds of being detained under the Mental Health Act*

Model	Predictor variable	OR	(95% CI)
Ethnicity only	Ethnicity**		
	White	1	Ref.
	Black	1.350	(1.137–1.602)
	Asian	0.956	(0.773–1.182)
	Other	1.312	(1.033–1.667)
Site only	Site of assessment**		
	London	1	Ref.
	Oxfordshire	0.535	(0.460–0.622)
	Birmingham	0.512	(0.438–0.599)
Ethnicity and site	Ethnicity		
	White	1	Ref.
	Black	1.191	(0.996–1.424)
	Asian	1.040	(0.833–1.299)
	Other	1.078	(0.843–1.379)
	Site of assessment**		
	London	1	Ref.
	Oxfordshire	0.531	(0.453–0.622)
	Birmingham	0.518	(0.439–0.611)

OR, Odds ratio; CI, confidence interval; Ref., reference.
** p<0.001.

psychosis, the presence of risk, living in supported accommodation, female gender, being over the age of 30 years and London as the site of assessment independently predicted detention under the MHA. Ethnicity was not associated with the odds of detention. The high rate of detention in London suggests that where ethnicity is significantly associated with the outcome of the assessment, this is likely to be due to the distribution of ethnic groups across the three sites. For example, the single logistic regression model (Table 5) reveals that Asian patients have a lower point estimate of the OR when compared with White patients. However, as illustrated in Table 2, the bulk of the Asian patients were assessed in Birmingham (61.4% of all Asian patients), with the highest proportion of White patients being assessed in London (41.0% of all White patients). This suggests that Asian patients were subject to a lower detention rate simply by being assessed in Birmingham rather than London. This effect is confirmed when only ethnicity and site of assessment are used as predictors of detention, as only site of assessment is found to be significant. Again, London is shown to have a higher OR than both other sites (Table 5).

In using this approach we found no evidence that among people who are assessed under the MHA, ethnicity is an independent predictor of detention. A diagnosis of serious mental illness and the presence of risk predict MHA detention. These are two of the three legal requirements for detaining an individual under

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the MHA. The third requirement for detaining a mentally ill individual is the lack of alternative to in-patient supervision and treatment. Our finding of the London site effect on detention may be explained by differences in service provision such as differences in threshold for MHA assessments or more crisis referrals. London also has many more Black Africans and Afro-Caribbeans than other parts of the UK but this should not influence the proportions of those who are admitted compulsorily. Previous studies that have found higher odds of detention of Black patients (Morgan *et al.* 2005; Singh *et al.* 2007; Lawlor *et al.* 2012) have either been conducted in London predominantly or shown greater odds in London compared with elsewhere in the UK. London in this respect may not be representative of the country as a whole and the special demographic characteristics of London may account for this difference.

Recent studies of detention show a strong association between treating mental health trust and patient experience of coercion. People from ethnic minorities, particularly Black patients, were more likely to be in hospitals that were perceived to be more coercive (Bennewith *et al.* 2010). Keown *et al.* (2011) found that reduction in mental illness bed provision is closely associated with an increasing rate of MHA detention. Pathways to care in London may be very different from other sites due to differences in threshold for admission, access to home treatment teams, and in-patient provision. The previously reported association between ethnicity and detention may reflect a lack of adjustment for variations in service provision and pathways, which disappear when confounders are adjusted for.

The dominant explanation for higher detention amongst BME groups has been race-based, such as discrimination, stereotyping and institutional racism within mental health (Singh & Burns, 2006; Singh *et al.* 2007). A *BMJ* editorial in 2007 argued that only 'once the existence of institutional racism in mental health care is accepted, progress can be made to understand and tackle the causes of racial inequalities' (McKenzie & Bhui, 2007). In a large cohort across three different sites, we were able to examine an important aspect of care where concerns about possible discrimination have been raised and did not find evidence to support these claims.

Strengths and limitations

Although we used multiple sources for data collection and cross-checked these against each other, it is possible that we missed some MHA assessments. Patient living status and diagnosis were poorly recorded, particularly in London. However, there is no reason to suspect that missing data are BME specific once adjusted for site. The study only contains information collected at MHA assessments and so only shows a snapshot of the complex pathways through services. It cannot exclude any ethnic bias that may be operating in who is assessed under the MHA or in care provided following detention. Since the study covers a limited period between 2008 and 2011, we do not know whether data prior to 2008 would have shown a relationship between ethnicity and the odds of detention under the MHA.

Conclusions

Our findings suggest that the MHA does what it should; it ensures that people with serious mental disorders who are at risk are provided the care they need within the Law. Some variation in MHA detention of BME groups is possibly due to the effect of site and service provision rather than ethnicity *per se*.

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Declaration of Interest

None.

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