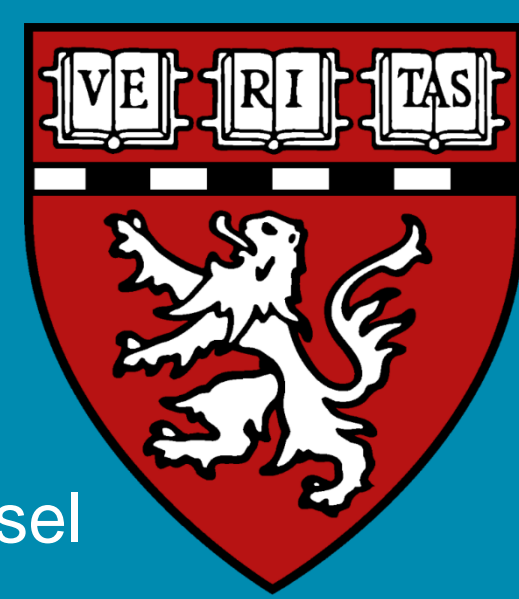




Racial Inequality in Restraint and Seclusion on an Urban Med-Psych Unit: A 2021 B.I.A.S. Project Report



Griffin Tyree, Samuel Dotson, Timothy Shea, Lucy Ogbu-Nwobodo, Stuart Beck, Derri Shtasel
Massachusetts General Hospital, Harvard Medical School

INTRODUCTION

Increasingly, attention is being paid to the disproportionate use of police force against minorities in the community. A large body of evidence has shown that the perception of dangerousness is influenced by race, especially under conditions of uncertainty as experienced in acute psychiatric settings¹. Prior studies examining the impact of race on restraint and seclusion in hospital settings have suggested disproportionate deployment of these coercive measures on minority patients²⁻⁴. The literature on this subject has been generally limited by small sample sizes and inconsistent adjustment for confounding variables.

The 2021 Bias In Acute Services (BIAS) project uses data collected prospectively over a six-year period on all admissions to an inpatient psychiatric unit at a large general hospital in Boston. This unit serves a socio-demographically diverse patient population, and is thus well-suited to examine determinants and correlates of racial disparities in restraint and seclusion.

METHODS

- Administrative staff used a standardized form to prospectively record every admission to a 24 bed med-psych unit between 8/1/2012 and 12/31/2018 (5,832 total admissions; 4,536 initial admissions; 3,785 unique individuals with known housing status, race, and restraint data).
- Race was based on the patient's self-identification at admission, and diagnostic data was taken from physician notes. A patient was coded as having a psychotic disorder regardless of suspected etiology (e.g. primary thought disorder, affective, substance-induced, neuro medical).
- Restraint status and associated variables were derived from unit records. Patient who had been subject to restraint or seclusion at one or more points in their admission were considered to have been restrained. Time in restraints reflects the cumulative duration of all mechanical restraint events during the admission.
- Statistical analyses were conducted in R and Microsoft Excel. Tables 1 and 2 display descriptive statistic of the sample, while tables 3 and 4 display odds of restraint by race for univariate and multivariate logistic regression, respectively.

RESULTS

Table 1. Descriptive Demographic and Clinical Variables (N = 3785)

	Not Restrained		Restrained	
	N	%	N	%
Total	3662	96.8%	123	3.2%
Age (Mean, SD)	(43.5)	(17.0)	(38.9)	(17.0)
Male	1899	51.9%	58	47.2%
Female	1753	47.9%	65	52.8%
Unknown	10	0.3%	0	0.0%
Housed	3030	82.7%	89	72.4%
Homeless	632	17.3%	34	27.6%
White	2677	73.1%	69	56.1%
Black	392	10.7%	27	22.0%
Hispanic/Latinx	359	9.8%	14	11.4%
Asian	126	3.4%	7	5.7%
Other/Multiple	108	2.9%	6	4.9%
Commercial Insurance	1207	33.0%	35	28.5%
Public Insurance	1866	51.0%	63	51.2%
Dual Eligible	57	1.6%	7	5.7%
Uninsured	510	13.9%	18	14.6%
Unknown	22	0.6%	0	0.0%
Unipolar Depressive (MDD)	1364	37.2%	12	9.8%
Bipolar NOS	422	11.5%	22	17.9%
Mood NOS	336	9.2%	9	7.3%
Schizophrenia Spectrum	863	23.6%	64	52.0%
Anxiety, Trauma, Stress	173	4.7%	3	2.4%
Substance Use Disorder	181	4.9%	1	0.8%
Suicidality or Self-harm	114	3.1%	0	0.0%
Other Specified	209	5.7%	12	9.8%
Any Psychotic Disorder	1115	30.4%	74	60.2%
Any Substance Disorder	1027	28.0%	23	18.7%
Any Trauma Disorder	335	9.1%	7	5.7%
Any Personality Disorder	156	4.3%	6	4.9%
From ED	2756	75.3%	99	80.5%
From Medicine/Surgery	746	20.4%	19	15.4%
Direct Admission	88	2.4%	0	0.0%
Outside Hospital Transfer	71	1.9%	5	4.1%
Other	1	0.0%	0	0.0%

Table 2. Restraint Management Variables

	Restrained	
	N	%
Total Number of Patients	123	100.0%
IM Med Administered	100	81.3%
Chlorpromazine	24	19.5%
Haloperidol	87	70.7%
Olanzapine	25	20.3%
Lorazepam	99	80.5%
Time in Restraints (Mean, SD)	(167.5)	(408.3)
Number of Restraints (Mean, SD)	(2.1)	(2.1)

Table 3. Univariate Logistic Regression

	Univariate	
	OR (95% CI)	p-value
Black (Compared to White)	2.672 (1.665, 4.172)	<0.001
Hispanic/Latinx	2.155 (0.886, 4.475)	0.059
Asian	1.513 (0.810, 2.633)	0.165
Other/Multiple	2.155 (0.821, 4.689)	0.079

Table 4. Multivariate Logistic Regression*

	Multivariate	
	OR (95% CI)	p-value
Black (Compared to White)	1.757 (1.043, 2.898)	0.030
Hispanic/Latinx	1.783 (0.710, 3.885)	0.176
Asian	1.671 (0.866, 3.029)	0.106
Other/Multiple	2.110 (0.778, 4.823)	0.103

*Backwards stepwise regression model controlling for race, age, gender, housing status, insurance, primary diagnosis, and referral source with a significance cutoff of p≤0.1. Secondary diagnoses, care team, attending, and admission day of week did not meet inclusion threshold.

CONCLUSIONS

- Black patients were significantly more likely to be restrained or placed in seclusion than their White peers, even after controlling for independent correlates of restraint and seclusion such as psychotic illness, age and homeless status.
- These findings suggest that in acute psychiatric treatment settings, Black patients are subjected to restraint and seclusion at a rate above what would be warranted by their clinical presentation alone.
- While this study is an examination of patient-level correlates of restraint and seclusion, further investigation of staff, structures, and systems characteristics associated with inequity in restraint is needed.
- Future work will include re-evaluating these data after an intervention period on the unit involving multidisciplinary staff training and the introduction of standardized, evidence-informed tools for violence prediction.

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