Supplemental Information

SUPPLEMENTAL TABLE 4 Characteristics of Patients With a Developmental or Mental Health Diagnosis

Patient Characteristics	All Patients (n = 9919)	Patients With No Restraint (n = 9704)	Patients With Restraint (n = 215)	Percentage of Patients Restrained	Unadjusted OR (95% OR)
Age (y)	14.1 (10.6 to 16.3)	14.1 (10.5 to 16.3)	14.7 (12.3 to 16.5)		1.1 (1.1 to 1.2)
Wt z-score*	0.4 (–0.5 to 1.4)	0.4 (–0.5 to 1.4)	0.6 (–0.1 to 1.5)		1.1 (1.0 to 1.2)
Sex					
Female	5157 (52%)	5073 (52%)	84 (39%)	1.6%	Referent
Male	4762 (48%)	4631 (48%)	131 (61%)	2.8%	1.7 (1.3 to 2.3)
Race and ethnicity					
Black	1319 (13%)	1251 (13%)	68 (32%)	5.2%	3.2 (2.3 to 4.3)
Hispanic	775 (8%)	766 (8%)	9 (4%)	1.2%	0.7 (0.3 to 1.3)
Multiracial	553 (6%)	537 (6%)	16 (7%)	2.9%	1.7 (1 to 2.9)
Other/unknown	325 (3%)	319 (3%)	6 (3%)	1.8%	1.1 (0.4 to 2.3)
White	6836 (69%)	6721 (69%)	115 (53%)	1.7%	Referent
Missing	111 (1%)	110 (1%)	1 (0%)	0.9%	
Public insurance	5159 (52%)	5017 (52%)	142 (66%)	2.8%	1.8 (1.4 to 2.4)
MH disorder groups**					
ADHD	2938 (30%)	2828 (29%)	110 (51%)	3.7%	2.5 (1.9 to 3.3)
Anxiety disorders/obsessive compulsive and related disorders	3563 (36%)	3471 (36%)	92 (43%)	2.6%	1.3 (1 to 1.8)
Autism spectrum disorders	1178 (12%)	1123 (12%)	55 (26%)	4.7%	2.6 (1.9 to 3.6)
Bipolar and related disorders	471 (5%)	434 (4%)	37 (17%)	7.9%	4.4 (3 to 6.3)
Communication disorders	494 (5%)	477 (5%)	17 (8%)	3.4%	1.7 (1 to 2.7)
Depressive disorders	2634 (27%)	2539 (26%)	95 (44%)	3.6%	2.2 (1.7 to 2.9)
Developmental delay;*** motor disorders; specific learning disorders	1662 (17%)	1616 (17%)	46 (21%)	2.8%	1.4 (1 to 1.9)
Disruptive, impulse control and conduct disorders	839 (8%)	729 (8%)	110 (51%)	13.1%	12.9 (9.8 to 17)
Feeding and eating disorders	562 (6%)	547 (6%)	15 (7%)	2.7%	1.3 (0.7 to 2.1)
Intellectual disability	340 (3%)	299 (3%)	41 (19%)	12.1%	7.4 (5.1 to 10.5)
Schizophrenia spectrum and other psychotic disorders	188 (2%)	159 (2%)	29 (13%)	15.4%	9.4 (6 to 14.1)
Substance abuse-related medical illness	894 (9%)	846 (9%)	48 (22%)	5.4%	3.0 (2.1 to 4.1)
Suicide or self-injury	2462 (25%)	2342 (24%)	120 (56%)	4.9%	4.0 (3 to 5.2)
Trauma and stressor related disorders	1190 (12%)	1118 (12%)	72 (33%)	6.1%	3.9 (2.9 to 5.1)

MH, mental health; ADHD, attention deficit hyperactive disorder; OR, odds ratio.
Median (interquartile range) shown for quantitative variables.
* Age and weight-adjusted median Z-score.
** Includes *International Classification of Diseases, Tenth Revision* codes associated with the patient at ANY visit during study period which mapped to a mental health disorder, as described by the Child and Adolescent Mental Health Disorders Classification System.
*** Includes Unspecified Neurodevelopmental Disorder.

MISSING DATA

For modeling purposes, missing values for race and ethnicity were imputed by taking Bernoulli draws from the empirical distributions of the Black and other/multiracial indicators, conditional on public insurance status. For example, 7.9% and 13.2% of patients with no record of public insurance were respectively classified as Black and Other/Multiracial, so indicators for each patient with missing race and ethnicity category and no record of public insurance were coded Black = 1 (yes) with 7.9% probability and other/multiracial = 1 with 13.2% probability. Missing values for the public insurance indicator were similarly imputed conditional on patient race and ethnicity. When possible, missing weight values were filled in with the patient's weight from another visit within 30 days. Values that remained missing were imputed by stochastic regression, as follows: A linear mixed model with a random patient intercept was fit to the observed weight *z*-scores. The resulting patient intercept estimates were regressed on the weight *z*-scores to yield a prediction model. For patients with at least one valid weight value, and thus a random intercept estimate, missing weight *z*-scores were imputed by computing the patient's prediction model-estimated weight *z*-score and adding random noise with SD equal to the prediction model's residual SE. As there were no correlates of adjusted weight *z*-score useful for fitting a prediction model, missing values for the remaining patients were imputed by taking random draws from a normal distribution with mean and variance equal to those of the empirical *z*-score distribution (equivalent to stochastic regression with an intercept-only model). Imputation by stochastic regression was chosen considering the low rate of missing data. Multiple imputation was considered, but the computing time required to refit the Bayesian model to many imputed data sets was prohibitive. Sensitivity to imputation was assessed by fitting the model to a data set limited to cases with complete data; results were nearly identical.