

Supplementary Material

Contents

Table PSM1: Propensity score matching variables

Figure PSM1: Effect size of variables before and after propensity matching

PROPENSITY SCORE MATCHING

Cases were matched to non-cases using PsmPy (<https://pubmed.ncbi.nlm.nih.gov/36086543/>) an open source Python software for propensity score matching. PsmPy was configured to use logistic regression and k-nearest neighbors without a caliper width. The logistic regression output score denotes the propensity (probability) that each encounter matches the suicidality case definition. The PsmPy input variables included demographics (gender, age group, patient reported race); documented healthcare utilization, and DSM-5 diagnostic categories. Study period and selection criteria are described in the methods section of the manuscript. History was trimmed such that future encounter diagnosis would not influence prior predicted scores. The PsmPy logistic regression classifier was used to score the probability that each encounter would include an ICD-10 diagnosis code for suicidality. Cases of suicidality were then 1:1 matched to non-cases based on the PsmPy predicted propensity scores using k-nearest neighbors.

Type	Variable	Description
Demographics	Gender	Biological sex assigned at birth.
Demographics	Age Group	Patient age at visit. Age groups were children aged 6-11 and adolescents aged 12-18.
Demographics	Patient reported race	CDC race codes <ul style="list-style-type: none">• American Indian or Alaska Native• Asian• Black or African American• Native Hawaiian or Pacific Islander• Other• White• Unknown
Utilization	Visit count, total	Number of patient encounters during the study period.
Utilization	Count discharge summaries	Number of documented hospital discharges.
Utilization	Count ED notes	Number of documented ED encounters.
Utilization	Count Psych Eval	Number of documented psychiatric evaluations.

Utilization	Count Psych Consult	Number of documented psychiatric consults.
Utilization	Person awaiting admission to adequate facility elsewhere	Binary variable: ICD-10 code Z75.1
DSM-5	Intellectual Disabilities	F70, F71, F72, F73, F88, F79
DSM-5	Communication Disorders	F80.9, F80.0, F80.81, F80.89, F80.9
DSM-5	Autism Spectrum Disorder	F84.0
DSM-5	Attention-Deficit/Hyperactivity Disorder	F90.0, F90.1, F90.2, F90.8, F90.9
DSM-5	Specific Learning Disorder	F81.0, F81.2, F81.81
DSM-5	Motor Disorders	F82, F98.4
DSM-5	Tic Disorders	F95.2, F95.1, F95.0, F95.8, F95.9
DSM-5	Other Neurodevelopmental Disorders	F88, F89
DSM-5	Schizophrenia Spectrum and Other Psychotic Disorders	F21, F22, F23, F20.81, F20.9, F25.0, F25.1, F06.0, F06.2, F28, F29, F06.1
DSM-5	Bipolar Disorders	F31.0, F31.1, F31.10, F31.11, F31.12, F31.13, F31.2, F31.3, F31.30, F31.31, F31.32, F31.4, F31.5, F31.6, F31.60, F31.61, F31.62, F31.63, F31.64, F31.7, F31.70, F31.71, F31.72, F31.73, F31.74, F31.75, F31.76, F31.77, F31.78, F31.8, F31.81, F34.0, F06.33, F06.34, F31.89, F31.9
DSM-5	Depressive Disorders	F34.8, F32.0, F32.1, F32.2, F32.3, F32.4, F32.5, F32.8, F32.81, F32.89, F32.9, F33.0, F33.1, F33.2, F33.3, F33.4, F33.40, F33.41, F33.42, F33.8, F33.9, F34.1, N94.3, F06.31, F06.32, F06.34, F32.8, F32.9
DSM-5	Anxiety Disorders	F93.0, F94.0, F40.218, F40.228, F40.230, F40.231, F40.232, F40.233, F40.248, F40.298, F40.10, F41.0, F40.00, F41.1, F06.4, F41.8, F41.9
DSM-5	Obsessive-Compulsive and Related Disorders	F42, F45.22, F63.2, L98.1, F06.8
DSM-5	Trauma- and Stressor-Related Disorders	F94.1, F94.2, F43.10, F43.0, F43.20, F43.21, F43.22, F43.23, F43.24, F43.25, F43.8, F43.9
DSM-5	Dissociative Disorders	F44.81, F44.0, F44.1, F48.1, F44.89, F44.9
DSM-5	Somatic Symptom and Related Disorders	F45.1, F45.21, F44.4, F44.5, F44.6, F44.7, F54, F68.10, F45.8, F45.9

DSM-5	Feeding and Eating Disorders	F98.3, F50.8, F98.21, F50.01, F50.02, F50.2, F50.9
DSM-5	Elimination Disorders	F98.0, F98.1, N39.498, R15.9, R32, R15.9
DSM-5	Sleep-Wake Disorders	G47.00, G47.10, G47.411, G47.419, G47.429, G47.33, G47.31, G47.37, R06.3, G47.37, G47.34, G47.35, G47.36, G47.20, G47.21, G47.22, G47.23, G47.24, G47.26, F51.3, F51.4, F51.5, G47.52, G25.81, G47.09, G47.00, G47.19, G47.10, G47.8, G47.9
DSM-5	Sexual Dysfunctions	F52.32, F52.21, F52.31, F52.22, F52.6, F52.0, F52.4, F52.8, F52.9
DSM-5	Gender Dysphoria	F64.1, F64.2, F64.8, F64.9
DSM-5	Disruptive, Impulse-Control, and Conduct Disorders	F91.3, F63.81, F91.1, F91.2, F91.9, F60.2, F63.1, F63.3, F91.8, F91.9
DSM-5	Substance-Related and Addictive Disorders	F10.10, F10.20, F10.129, F10.229, F10.929, F10.239, F10.232, F10.99, F15.929, F15.93, F15.99, F12.10, F12.20, F12.129, F12.229, F12.929, F12.122, F12.222, F12.922, F12.288, F12.99, F16.10, F16.20, F16.129, F16.229, F16.929, F16.983, F16.99, F18.10, F18.20, F18.129, F18.229, F18.929, F18.99, F11.10, F11.20, F11.129, F11.229, F11.929, F11.122, F11.222, F11.922, F11.23, F11.99, F13.10, F13.20, F13.129, F13.229, F13.929, F13.239, F13.232, F13.99, F15.10, F14.10, F15.20, F14.20, Z72.0, F17.200, F17.203, F17.209, F19.10, F19.20, F19.129, F19.229, F19.929, F19.239, F19.99, F63.0
DSM-5	Neurocognitive Disorders	F05, R41.0, F01.51, F01.50, G31.9, G31.84, F02.81, F02.80, R41.9
DSM-5	Personality Disorders	F60.0, F60.1, F21, F60.2, F60.3, F60.4, F60.81, F60.6, F60.7, F60.5, F07.0, F60.89, F60.9
DSM-5	Paraphilic Disorders	F65.3, F65.2, F65.81, F65.51, F65.52, F65.4, F65.0, F65.1, F65.89, F65.9
DSM-5	Other Mental Disorders	F06.8, F09, F99
DSM-5	Medication-Induced Movement Disorders and Other Adverse Effects of Medication	G21.11, G21.19, G21.0, G24.02, G25.71, G24.01, G24.09, G25.71, G25.1, G25.79, T43.205A, T43.205D, T43.205S, T50.905A, T50.905D, T50.905S

Table PSM1: Propensity score matching variables. Type column denotes if the variable denotes demographics, healthcare utilization, or DSM-5 category. Variable column is the name

of the variable used in the PSM model. Description column provides further detail. There are 28 DSM-5 categories, each category is either true or false (dichotomous variables).

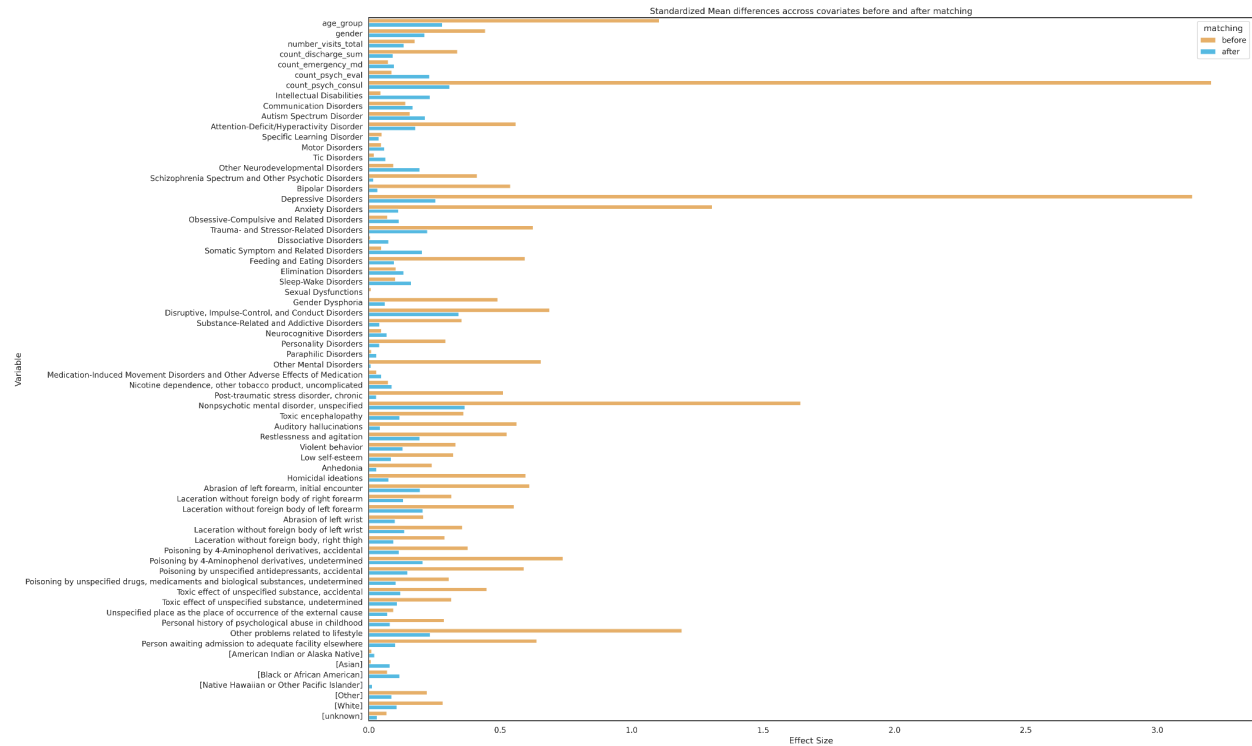


Figure PSM1: Effect size of variables before and after propensity matching. X-axis denotes effect size. Y-axis denotes each variable. Brown and blue bars denote variable effect size before and after matching, respectively. Largest effect size difference before matching was the healthcare utilization variable “count psychiatric consults”, followed by the DSM-V category “depressive disorders”.