

Supplementary Materials:

Supplemental Table S1. Diagnosis Codes	
Diagnosis	ICD-10-CM Code
Fracture of mandible	S02.6
Fracture of malar, maxillary and zygoma bones	S02.4
Fracture of orbital floor	S02.3
Fracture of nasal bones	S02.2
Opioid abuse, uncomplicated	F11.10
Opioid dependence, uncomplicated	F11.20
Cannabis abuse, uncomplicated	F12.10
Cannabis dependence, uncomplicated	F12.20
Other stimulant abuse, uncomplicated	F15.10
Other stimulant dependence, uncomplicated	F15.20
Cocaine abuse, uncomplicated	F14.10
Cocaine dependence, uncomplicated	F14.20
Hallucinogen abuse, uncomplicated	F16.10
Hallucinogen dependence, uncomplicated	F16.20
Sedative, hypnotic or anxiolytic dependence, uncomplicated	F13.20
Sedative, hypnotic or anxiolytic abuse, uncomplicated	F13.10
Inhalant abuse, uncomplicated	F18.10
Inhalant dependence, uncomplicated	F18.20

Supplemental Tabel S2a. Pre-Matched Demographic Data														
Drug	N (DIF-)	N (DIF+)	lean Age (DIF-)	lean Age (DIF+)	Male (DIF-)	Male (DIF+)	Female (DIF-)	Female (DIF+)	White (DIF-)	White (DIF+)	Black (DIF-)	Black (DIF+)	Latino (DIF-)	Latino (DIF+)
Cannabis	826212	7185	41.6 +/- 23.5	35.3 +/- 13.6	481952	5697	302420	1220	529426	3768	118708	1944	88369	736
Cocaine	826212	5582	41.6 +/- 23.5	43.2 +/- 13.0	481952	4241	302420	1141	529426	2493	118708	2107	88369	578
Hallucinogen	826212	426	41.6 +/- 23.5	38.1 +/- 10.5	481952	357	302420	62	529426	106	118708	254	88369	30
Inhalant	826212	1875	41.6 +/- 23.5	39.0 +/- 12.9	481952	1205	302420	442	529426	1100	118708	311	88369	169
Opioid	826212	6532	42.6 +/- 23.5	41.2 +/- 13.8	481952	4670	302420	1542	529426	4625	118708	886	88369	680
Sedative	826212	1349	49.0 +/- 22.8	47.1 +/- 16.1	481952	881	302420	382	529426	943	118708	154	88369	108
Stimulant	826212	4914	41.6 +/- 23.5	39.8 +/- 12.1	481952	3898	302420	971	529426	3084	118708	484	88369	692

Supplemental Table S2b. Post-Matched Data Data														
Drug	N (DIF-)	N (DIF+)	Mean Age (DIF-)	Mean Age (DIF+)	Male (DIF-)	Male (DIF+)	Female (DIF-)	Female (DIF+)	White (DIF-)	White (DIF+)	Black (DIF-)	Black (DIF+)	Latino (DIF-)	Latino (DIF+)
Cannabis	7185	7185	35.3 +/- 13.6	35.3 +/- 13.6	5698	5697	1220	1220	3768	3768	1944	1944	736	736
Cocaine	5582	5582	43.2 +/- 13.0	43.2 +/- 13.0	4242	4241	1141	1141	2494	2493	2107	2107	578	578
Hallucinogen	426	426	38.1 +/- 10.5	38.1 +/- 10.5	357	357	62	62	106	106	254	254	30	30
Inhalant	1875	1875	39.0 +/- 12.9	39.0 +/- 12.9	1205	1205	442	442	1100	1100	311	311	168	168
Opioid	6532	6532	41.2 +/- 13.8	41.2 +/- 13.8	4670	4670	1542	1542	4625	4625	886	886	680	680
Sedative	1349	1349	47.1 +/- 16.1	47.1 +/- 16.1	881	881	382	382	943	943	158	158	108	108
Stimulant	4914	4914	39.8 +/- 12.1	39.8 +/- 12.1	3898	3898	971	971	3084	3084	484	484	692	692

Supplemental Table S3. Outcome Codes		
Diagnosis	Code Type	Code
Mood [affective] disorders	ICD-10-CM	F30-F39
Anxiety, dissociative, stress-related, somatoform and other nonpsychotic disorders	ICD-10-CM	F40-F48
Fracture of orbital floor	ICD-10-CM	S02.3
Fracture of nasal bones	ICD-10-CM	S02.2
Fracture of malar, maxillary and zygoma bones	ICD-10-CM	S02.4
Fracture of mandible	ICD-10-CM	S02.6
Open wound of head	ICD-10-CM	S01
Procedure	Code Type	Code
Repair, Revision, and/or Reconstruction Procedures on the Head	CPT	1003833
Fracture and/or Dislocation Procedures on the Head	CPT	1003918
Surgical Procedures on the Head	CPT	1003799
Consultations	CPT	1013686
Ventilator Management	CPT	1015098
Critical Care Services	CPT	1013729
Hospital Inpatient or Observation Care Services (Including Admission and Discharge Services)	CPT	1013675
Diagnostic Radiology (Diagnostic Imaging) Procedures	CPT	1013252
Psychiatry Services and Procedures	CPT	1012681
Medication	Code Type	Code
Central nervous system medications	VA	CN000
Antimicrobials	VA	AM000

Supplemental Table S4a. Odds by Drug				Supplemental Table S4b. Averaged Odds			
Admission				Outcome	Odds Ratio	CI Lower	CI Upper
Substance	Odds Ratio	CI Lower	CI Upper	Admission	2.01	1.22	3.44
Stimulant	1.39275766	0.9057971	2.14132762	Critical Care	3.83	3.24	4.57
Opioid	2.75482094	1.91570881	3.96825397	Ventilator Mngmnt	5.18	3.88	7.07
Sedative	2.42718447	1.15473441	5.10204082	CNS medications	5.13	4.46	5.95
Inhalant	1.92678227	0.9569378	3.89105058	Antimicrobials	2.63	2.36	2.93
Hallucinogen	1	0.41186161	2.42718447	Diagnostic Radiology	1.53	1.26	1.96
Cocaine	2.1978022	1.5015015	3.21543408	Consultation	2.12	1.78	2.56
Cannabis	2.36406619	1.69491525	3.30033003	Psychiatry Services	8.40	5.49	13.17
Critical Care							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	4.85436893	4.31034483	5.46448087				
Opioid	4.18410042	3.7593985	4.65116279				
Sedative	5.46448087	4.32900433	6.94444444				
Inhalant	3.06748466	2.49376559	3.77358491				
Hallucinogen	2.11864407	1.40252454	3.20512821				
Cocaine	3.78787879	3.37837838	4.23728814				
Cannabis	3.36700337	3.03951368	3.73134328				
Ventilator Mngmnt							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	7.04225352	5.74712644	8.62068966				
Opioid	5.20833333	4.32900433	6.28930818				
Sedative	8.84955752	5.68181818	13.6986301				
Inhalant	2.52525253	1.7211704	3.7037037				
Hallucinogen	2.51889169	1.26742712	5				
Cocaine	5.07614213	4.16666667	6.21118012				
Cannabis	5.02512563	4.21940928	5.98802395				
CNS medications							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	7.40740741	6.57894737	8.33333333				
Opioid	6.36942675	5.81395349	7.04225352				
Sedative	6.84931507	5.55555556	8.47457627				
Inhalant	2.80898876	2.43309002	3.24675325				
Hallucinogen	3.02114804	2.18340611	4.18410042				
Cocaine	4.40528634	4	4.85436893				
Cannabis	5.07614213	4.65116279	5.52486188				
Antimicrobials							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	3.84615385	3.5335689	4.18410042				
Opioid	2.96735905	2.76243094	3.18471338				
Sedative	2.80112045	2.3923445	3.26797386				
Inhalant	1.85528757	1.6286645	2.1141649				
Hallucinogen	1.52905199	1.16686114	2.00400802				
Cocaine	2.54452926	2.35849057	2.74725275				
Cannabis	2.83286119	2.64550265	3.03030303				
Diagnostic Radiology							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	2.31481481	2.10526316	2.54452926				
Opioid	1.37931034	1.28040973	1.4858841				
Sedative	1.47710487	1.25313283	1.74216028				
Inhalant	1.92678227	0.9569378	3.89105058				
Hallucinogen	0.53276505	0.40096231	0.7082153				
Cocaine	1.49925037	1.38121547	1.62601626				
Cannabis	1.58478605	1.47492625	1.70357751				
Consultation							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	2.04498978	1.8018018	2.32018561				
Opioid	2.3364486	2.09205021	2.61096606				
Sedative	3.31125828	2.59067358	4.23728814				
Inhalant	0.96432015	0.78926598	1.1778563				
Hallucinogen	1.31926121	0.82987552	2.09643606				
Cocaine	2.51889169	2.23713647	2.83286119				
Cannabis	2.36406619	2.12314225	2.62467192				
Psychiatry Services							
Substance	Odds Ratio	CI Lower	CI Upper				
Stimulant	9.17431193	6.4516129	12.987013				
Opioid	9.17431193	6.84931507	12.195122				
Sedative	13.33333333	6.94444444	25.6410256				
Inhalant	5.84795322	3.47222222	9.80392157				
Hallucinogen	3.26797386	1.57977883	6.75675676				
Cocaine	7.46268657	5.40540541	10.3092784				
Cannabis	10.5263158	7.75193798	14.4927536				