Data Supplement for Williams et al., Acute Care, Prescription Opioid Use, and Overdose Following Discontinuation of Long-Term Buprenorphine Treatment for Opioid Use Disorder. Am J Psychiatry (doi: 10.1176/appi.ajp.2019.19060612).

TABLE S1. Procedure codes used to define baseline health service use

Health Service	ICD-9 Codes	ICD-10 Codes
Opioid overdose	965.0. E850.0-E850.2	T40.0-T40.4
Non-opioid drug overdose	960-964, 965.1-979, E850.3-E850.9, E851-E858, E950.0-E950.5, E962.0, E980.0-E980.5	T36-T39, T40.5-T40.9, T41-T50

ICD-9 = International Classification of Diseases, 9th Revision; ICD-10 = International Classification of Diseases, 10th Revision;

Note: Opioid use disorders and comorbid conditions were coded using the International Classification of Diseases, applying clinical codes from the Ninth Revision (ICD-9)   to all claims preceding October 15th, 2015 and codes from the Tenth Revision (ICD-10) to all subsequent claims.

TABLE S2. Diagnosis codes used to define baseline psychiatric comorbidities

Comorbid Condition	ICD-9 Codes	ICD-10 Codes
Mental health disorders	290, 293-302, 306-319	F01-F09, F20-F99
Alcohol use disorders	291, 303, 305.0	F10
Non-opioid drug use disorders	292, 304.1-304.6, 304.8-304.9, 305.2-305.4, 305.6-305.9	F12-F16, F18-F19

ICD-9 = International Classification of Diseases, 9th Revision (ICD-9); ICD-10 = International Classification of Diseases, 10th Revision (ICD-10)

Note: Opioid use disorders and comorbid conditions were coded using the International Classification of Diseases, applying clinical codes from the Ninth Revision (ICD-9) to all claims preceding October 15th, 2015 and codes from the Tenth Revision (ICD-10) to all subsequent claims.

TABLE S3. Sensitivity analyses among beneficiaries with a documented opioid use disorder diagnosis

	Inpatient Hospitalization		Emergency Department Visit		Overdose		Opioid Prescription	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Episode Duration								
6-9 months (n=3,651)	Ref.		Ref.		Ref.		Ref.	
9-12 months (n=2,199)	0.85	(0.73, 1.00)*	0.93	(0.84, 1.04)	1.05	(0.83, 1.33)	0.97	(0.86, 1.10)
12-15 months (n=1,351)	0.87	(0.73, 1.05)	0.85	(0.75, 0.97)*	1.12	(0.86, 1.47)	0.85	(0.73, 0.98)*
15-18 months (n=876)	0.79	(0.63, 0.99)*	0.74	(0.64, 0.86)***	1.03	(0.75, 1.43)	0.68	(0.56, 0.82)***
Demographics								
Sex								
Male	Ref.		Ref.		Ref.		Ref.	
Female	1.09	(0.95, 1.25)	1.17	(1.06, 1.28)**	0.64	(0.53, 0.78)***	1.42	(1.27, 1.59)***
Age								
18-24	Ref.		Ref.		Ref.		Ref.	
25-34	0.96	(0.77, 1.19)	0.98	(0.85, 1.14)	0.89	(0.64, 1.23)	1.19	(0.99, 1.43)
35-44	0.93	(0.73, 1.18)	1.02	(0.87, 1.20)	0.99	(0.70, 1.40)	1.50	(1.23, 1.82)***
45-54	1.44	(1.09, 1.89)*	1.05	(0.86, 1.28)	0.82	(0.53, 1.27)	2.10	(1.67, 2.64)***
55-64	1.79	(1.26, 2.56)**	1.48	(1.12, 1.96)**	1.02	(0.59, 1.79)	2.69	(1.99, 3.65)***
Race/ethnicity								
White	Ref.		Ref.		Ref.		Ref.	
Non-white	1.25	(1.01, 1.55)*	1.40	(1.20, 1.65)***	1.03	(0.74, 1.45)	1.09	(0.91, 1.30)
Medicaid Plan								
FFS	Ref.		Ref.		Ref.		Ref.	
Capitation	1.22	(1.05, 1.41)**	1.10	(1.00, 1.20)	1.25	(1.00, 1.56)	1.04	(0.93, 1.17)
Clinical Characteristics								
Mental Health Diagnosis	1.53	(1.34, 1.75)***	1.46	(1.32, 1.61)***	1.56	(1.28, 1.91)***	1.53	(1.37, 1.71)***
Substance Use Diagnoses								
Alcohol use disorder	1.56	(1.22, 1.99)***	1.29	(1.06, 1.58)*	1.94	(1.41, 2.67)***	1.00	(0.79, 1.25)
Non-opioid drug use disorder	1.61	(1.40, 1.86)***	1.21	(1.09, 1.35)***	1.42	(1.15, 1.75)**	1.07	(0.95, 1.21)
Treatment Characteristics								
Initial buprenorphine dose	0.99	(0.96, 1.01)	0.98	(0.97, 1.00)	1.00	(0.96, 1.04)	0.99	(0.97, 1.02)

Data from 2013-2017 Multistate MarketScan.

*p<.05; **p<.01; and ***p<.001; OR= odds ratio; CI = confidence interval