

Appendix 1.

Procedural Codes for Opioid Use Disorder (OUD) Treatment Services

Coding System	Procedural Code
HCPCS System	H0001-H0050, H1000-H1005, H1010-H1011, H2000-H2001, H2010-H2011-H2019, H2020 ^a , H2021-H2037, T1002, T1006-T1007, T1012, T1016, T2048
CPT Codes	90791, 90832, 90834, 90837, 90839- 90840, 90845-90847, 90853 , 90801-90802, 90804, 90806, 90808, 90810, 90812, 90814, 90816, 90818, 90821, 90823, 90826, 90828 ,90857
International Statistical Classification of Diseases	9464, 9465 ^b , 9466-9467, 9468 ^c , 9469, HZ2ZZZZ ^d , HZ30ZZZ- HZ39ZZZ, HZ3BZZZ , HZ40ZZZ-HZ49ZZZ, HZ4BZZZ

A refers to methadone administration. B-D refers to detoxification services. Services without a footnote denotes psychosocial treatment.

National Drug Codes Used for Identification of OUD Pharmacy Claims for Buprenorphine

Medication	NDC Codes
Buprenorphine Alone (Buprenorphine-Naloxone)	5401761, 54017713, 93537856, 93537956, 228315303, 228315603, 378092393, 378092493, 12496127802, 12496131002, 38779088800, 38779088801, 38779088803, 38779088809, 49452129203, 49452825301, 49452825302, 49452825303, 49452825304, 49999063830, 49999063930, 50383092493, 50383093093, 51927101200, 62991158301, 62991158302, 62991158303, 62991158304, 63275992202, 63370090506, 63370090509, 63370090510, 63370090515, 63874117303, 68308020830
Buprenorphine Combination Product (Buprenorphine HCl)	54018813, 54018913, 93572056, 93572156, 228315403, 228315473, 228315503, 228315573, 406192303, 406192403, 490005130, 12496120201, 12496120203, 12496120401,, 12496120403, 12496120801, 12496120803, 12496121201, 12496121203, 12496128302, 12496130602, 16590066630, 16590066730, 23490927003, 35356000430, 42291017430, 42291017530, 43063018430, 49999039515, 50383028793, 50383029493, 52959030430, 52959074930, 54123011430, 54123091430, 54123092930, 54123095730, 54123098630,, 54569573900, 54569573901, 54569573902, 54569639900, 54868570700, 54868570701, 54868575000, 55700014730, 59385001201, 59385001230, 59385001401, 59385001430, 59385001601, 59385001630, 60429058630, 60429058730, 63874108503, 65162041503, 65162041603, 68071151003

Xu KY, Jones HE, Schiff DM, Martin CE, Kelly JC, Carter EB, et al. Medication initiation and treatment discontinuation in pregnant compared with nonpregnant people. *Obstet Gynecol* 2023;141.

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Appendix 2. Current Procedural Terminology Codes Used to Identify Inpatient and Outpatient Deliveries

Medication	CPT Codes
ICD-9	01960, 01961 , 01962, 01963 , 01967 , 01968 , 01969 , 59050 , 59051, 59400 , 59409 , 59410 , 59412 , 59414 , 59430 , 59510 , 59514 , 59515 , 59525 , 59610 ,59612 , 59614 , 59618 , 59620 , 59622 , 99436 , 99440
ICD-10	72 , 72.0 , 72.1 , 72.2 , 72.21 , 72.29 , 72.3 , 72.31

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Appendix 3.

Unadjusted Logistic Regression Models for the Association Between Pregnancy and MOUD Initiation

	Odds Ratio	95% Confidence Limits		P-value
Buprenorphine				
Among all individuals Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	1.12	1.04	1.20	<.0001
Methadone				
Among all individuals Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	2.45	2.21	2.73	<.0001

Adjusted Logistic Regression Models for the Association Between Pregnancy and MOUD Initiation

	Odds Ratio	95% Confidence Limits		P-value
Buprenorphine				
Among all individuals Model 1, Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	1.57	1.44	1.70	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 2, Pregnant v Not-Pregnant Status, Among All Treatment Episodes, n=155,771 episodes	1.66	1.52	1.81	<.0001
Among all individuals Model 3, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode), n=101,772 episodes	1.50	1.37	1.63	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 4, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode), n=101,772 episodes	1.57	1.43	1.72	<.0001
Among all individuals Model 5, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	1.66	1.53	1.80	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 6, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	1.75	1.60	1.91	<.0001

	Odds Ratio	95% Confidence Limits		P-value
Methadone				
Among all individuals Model 1, Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	2.04	1.82	2.27	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees	2.01	1.79	2.26	<.0001

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Model 2, Pregnant v Not-Pregnant Status, Among All Treatment Episodes, n=155,771 episodes				
Among all individuals Model 3, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode), n=101,772 episodes	1.97	1.76	2.22	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 4, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode), n=101,772 episodes	1.96	1.74	2.21	<.0001
Among all individuals Model 5, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	2.09	1.88	2.34	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 6, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	2.07	1.85	2.32	<.0001

Among all individuals

Models 1, 3, 5: Logistic regression models controlling for age, insurance status, co-occurring substance use disorders (alcohol, cannabis, sedative, stimulant, tobacco), co-occurring anxiety disorders, co-occurring psychotic disorders, co-occurring mood (bipolar, major depression) disorders

Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees

Models 2, 4, 6: Logistic regression models controlling for age, race (**among Medicaid**), co-occurring substance use disorders (alcohol, cannabis, sedative, stimulant, tobacco), co-occurring anxiety disorders, co-occurring psychotic disorders, co-occurring mood (bipolar, major depression) disorders

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Appendix 4.

Unadjusted Cox Regression Models for the Association Between Pregnancy and MOUD Discontinuation

Buprenorphine	Hazard Ratio	95% Confidence Limits		P-value
Among all individuals Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	0.79	0.75	0.84	<.0001

Methadone	Hazard Ratio	95% Confidence Limits		P-value
Among all individuals Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	0.71	0.64	0.78	<.0001

Adjusted Cox Regression Models for the Association Between Pregnancy and MOUD Discontinuation

Buprenorphine	Hazard Ratio	95% Confidence Limits		P-value
Among all individuals Model 1, Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	0.71	0.67	0.76	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 2, Pregnant v Not-Pregnant Status, Among All Treatment Episodes, n=155,771 episodes	0.71	0.66	0.77	<.0001
Among all individuals Model 3, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode) , n=101,772 episodes	0.68	0.63	0.73	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 4, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode), n=101,772 episodes	0.61	0.56	0.67	<.0001
Among all individuals Model 5, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	0.71	0.67	0.75	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees Model 6, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	0.71	0.66	0.76	<.0001

Methadone	Hazard Ratio	95% Confidence Limits		P-value
Among all individuals Model 1, Pregnant v Not-Pregnant Status, Among all Treatment Episodes, n=155,771 episodes	0.68	0.61	0.75	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees	0.66	0.59	0.73	<.0001

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Model 2, Pregnant v Not-Pregnant Status, Among All Treatment Episodes, n=155,771 episodes				
Among all individuals				
Model 3, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode) , n=101,772 episodes	0.50	0.44	0.57	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees				
Model 4, Pregnant v Not-Pregnant Status, One Episode Per Person (First Episode), n=101,772 episodes	0.48	0.42	0.55	<.0001
Among all individuals				
Model 5, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	0.69	0.62	0.76	<.0001
Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees				
Model 6, Pregnant v Not-Pregnant Status, One Pregnancy Per Person, n=155,554 episodes	0.67	0.60	0.75	<.0001

Among all individuals

Models 1, 3, 5: Cox regression models controlling for age, insurance status, co-occurring substance use disorders (alcohol, cannabis, sedative, stimulant, tobacco), co-occurring anxiety disorders, co-occurring psychotic disorders, co-occurring mood (bipolar, major depression) disorders

Excluding commercial enrollees , as race/ethnicity data is only available among Medicaid enrollees

Models 2, 4, 6: Cox regression models controlling for age, race, co-occurring substance use disorders (alcohol, cannabis, sedative, stimulant, tobacco), co-occurring anxiety disorders, co-occurring psychotic disorders, co-occurring mood (bipolar, major depression) disorders