

National Center for Health Statistics Research Data Center
(NHCS RDC)

Data on Hospitalizations and Drugs: Data from the National
Hospital Care Survey, 2019-2021

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OVERVIEW

This document describes the 2019, 2020, and 2021 National Hospital Care Survey (NHCS) Enhanced Opioid Identification Dataset that was created by the Enhanced Opioid Identification Algorithm. The algorithm was created using funding awarded to the National Center for Health Statistics from the Assistant Secretary for Planning and Evaluation (ASPE) Office of the Secretary – Patient Centered Outcomes Research Trust Fund (OS-PCORTF).

This document provides:

- description of the algorithm methodology and case definitions.
- information about the records available in the dataset.
- resources for additional information.

ENHANCED OPIOID IDENTIFICATION ALGORITHM

Data Source

Enhanced Opioid Identification Algorithm was developed using the National Hospital Care Survey (NHCS). The **NHCS** collects inpatient (IP) and emergency department (ED) administrative claims or electronic health record (EHR) data from participating hospitals. This dataset includes information captured during a hospital visit such as diagnoses, services provided at the hospital, and discharge status. The 2019 NHCS data are not nationally representative; however, plans are the 2020 and 2021 NHCS will be weighted to allow for national estimates to be produced. For general information about the NHCS, see: <https://www.cdc.gov/nchs/nhcs/index.htm>. For information on the 2019, 2020, and 2021 NHCS data available in the RDC, see: <https://www.cdc.gov/rdc/data/b1/NHCS-RDC-Data-Dictionary.pdf>.

INFORMATION ABOUT THE NHCS ENHANCED OPIOID- IDENTIFICATION VARIABLES

The encounter-level file of the NHCS Enhanced Opioid Identification Dataset identifies opioid-involved hospital encounters in the ED and IP settings. The file was created using the Enhanced Opioid Identification algorithm that searched the 2019, 2020, and 2021 NHCS dataset for opioid-involved encounters using medical codes and machine learning techniques. The code component of the algorithm searched for opioid involved diagnosis, medication, procedure, service, and laboratory codes. The Natural Language Processing (NLP) component of the enhanced algorithm identified opioid-involved encounters mentioned in the clinical notes. Detailed information on the methodology for the development of the Enhanced Opioid Identification Algorithm is described in the following report: https://www.cdc.gov/nchs/data/series/sr_02/sr2-188.pdf.

Opioid Definition and Search Terms

Opioids are defined as natural opioids, semi-synthetic opioids, prescription synthetic opioids, illicit opioids, and substances that produce opioid-like effects. *Opioid-involvement* is defined as search terms or medical codes that indicate opioid use prior to hospital arrival, opioids administered during the hospital stay, or opioids prescribed upon discharge. *Opioid-overdoses* were identified using T40 International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes, or F11 use/abuse/dependence ICD-10-CM codes or from opioid-overdose search terms found in the clinical notes using NLP methods. Opioid-overdoses mentioned during the survey year were included in the analysis. Overdoses that occurred prior to survey years were excluded. Refer to the Appendix I – VIII for the complete code and search terms lists.

The final medication lists incorporated opioid search terms from the Drug Involved Mortality (DMI) Principal Variant list, the National Electronic Injury Surveillance System – Cooperative Adverse Drug Event Surveillance Project (NEISS-CADES), and the University of Kentucky’s Enhanced State Opioid Overdose Surveillance (ESOOS) drug terms and queries. The list includes opioid medication brand names, generic names, metabolites, illicit opioids and their street names, acronyms, and misspellings. The final list was used in both the coded and NLP algorithms.

An interdisciplinary team of clinicians, researchers, and analysts collated the medical codes and search terms and mapped them to 13 frequently-used opioids and opioid-antagonists (listed below). Opioids that did not map to the 13 categories were identified as other opioids (OTH_OPIOID), and their names listed as free text and multiple substances are delimited by semicolons (OTHER_OPIOID_LIST). General mentions of opioids (e.g., “opiate,” “narcotic,” etc.) were mapped as “unspecified opioids” (UNSPECIFIED_OPIOID).

- Buprenorphine/Norbuprenorphine
- Codeine
- Fentanyl/Fentanyl analogs
- Heroin
- Hydrocodone
- Hydromorphone
- Levorphanol
- Meperidine
- Methadone
- Morphine
- Oxycodone
- Oxymorphone
- Tramadol
- Unspecified opioid
- “Other” opioid
- Naltrexone
- Naloxone

Code Component

The code component of the Enhanced Opioid Identification Algorithm identified opioids, opioid antagonists, and opioid-involved overdoses from the medical codes and labels of diagnoses codes, medication codes, services codes, and laboratory codes with positive results. The code systems used to identify opioid-involved encounters are ICD-10-CM codes for diagnoses, RxNORM and Systematized Nomenclature of Medicine (SNOMED) codes for medications, International Classification of Diseases, Tenth Revision, Procedure Classification System (ICD-10-PCS), and Healthcare Common Procedure Coding System (HCPCS) for services/procedures, and Logical Observation Identifiers Names and Codes (LOINC) codes to identify positive opioid-involved laboratory screens. See the Appendix I-V for the list of codes included in the algorithm.

Keyword searches of the medical code labels are part of the coded algorithm because the labels are standardized within their respective code systems. Using this assumption, the search terms were limited to the correct spellings of

opioid search terms. Keyword search was also used to identify positive or confirmatory qualitative laboratory results (e.g., “positive,” “pos,” “confirmed,” etc). LOINC codes without a positive result were identified as an opioid-involved encounter.

Machine Learning and Natural Language Processing Component

The machine learning and NLP component of the Enhanced Opioid Identification Algorithm identifies opioid-involved encounters mentioned in the clinical notes available in the 2019, 2020, and 2021 NHCS data. Only EHR data sources with clinical notes are included in the NLP analysis.

The NLP algorithm used Named Entity Recognition (NER) techniques and an existing opioid-search term list to detect opioid-involved encounters (see Appendix VII -VIII for search term list). NER is an NLP approach that searches for opioids by learning what words resemble opioid search terms. The search term list and NER were used together to identify exact matches from the opioid list and possible matches from the NER. The list of possible matches was manually reviewed by clinicians and researchers to determine if the possible matches were truly opioids. This approach allowed the NER to capture opioid medications and novel misspellings that were not included in search term lists.

The NER could also exclude encounters that fell outside the definition of “opioid-involved”. The program was able to detect terms and phrases in the notes that negated opioid use (e.g. “did not use”). In addition, the NER also recognized dates embedded in the notes and identified opioid mentions that were outside the analysis time period. Opioids that were negated were reviewed and removed from the final NLP output.

In addition, the NER was also used to detect opioid overdoses. Once an overdose mention was detected, NER would search the surrounding text for an illicit or licit opioid search term. Notes that detected a negated drug mention, a non-opioid drug, or detected no drug mentions were not classified as an opioid overdose.

NHCS Enhanced Opioid-Identification Variables

The encounter level file includes variables for 13 opioids, two opioid antagonists, and non-specific mentions of opioids. The value of the variables is binary, where a one (1) indicates there was an opioid identified in the hospital

encounter from the enhanced algorithm, and a zero (0) indicates the opioid was not identified by the algorithm.

Additional variables identify whether the opioids were identified using NLP, opioids identified using codes/free text search, drug overdoses identified by NLP, and drug overdoses identified by codes/free text search. Table 1 and Table 2 details the number of encounters that were identified as opioid-involved in the 2019, 2020, and 2021 NHCS, while Table 3 and Table 4 identifies the number of encounters that had a mention of an opioid or opioid antagonist of interest. Note, Table 3 and Table 4 includes opioid-involved encounters and encounters that are not opioid-involved but have a mention of opioid antagonists naloxone and naltrexone.

Table 1. Number and percent of 2019, 2020, and 2021 National Hospital Care Survey emergency department encounters identified as opioid-involved by the Enhanced Opioid Identification Algorithm

	2019		2020		2021	
	Number	Percent	Number	Percent	Number	Percent
Opioid-Involved	498,588	9.8	1,005,540	12.6	1,201,803	12.0
Mentions of Naloxone or Naltrexone	941	0.0	5,603	0.1	8,366	0.1
Not Opioid Involved	5,049,801	91.0	6,949,813	87.3	8,815,330	87.9
Total Encounters	5,549,330	100.0	7,960,956	100.0	10,025,499	100.0

0.0 Quantity more than zero but less than 0.05

NOTES: NHCS data are unweighted and not nationally representative. Percentages may not add to 100.0 because of rounding

Table 2. Number and percent of 2019, 2020, and 2021 National Hospital Care Survey inpatient encounters identified as opioid-involved by the Enhanced Opioid Identification Algorithm

	2019		2020		2021	
	Number	Percent	Number	Percent	Number	Percent
Opioid-Involved	686,232	30.8	951,202	34.2	1,319,199	35.8
Mentions of Naloxone or Naltrexone	3,229	0.1	4,371	0.2	8,079	0.2
Not Opioid Involved	1,538,729	69.1	1,825,969	65.6	2,361,930	64.0
Total Encounters	2,228,190	100.0	2,781,542	100.0	3,689,208	100.0

Table 3. Number and percent of 2019, 2020, and 2021 National Hospital Care Survey emergency department encounters with at least one drug mention

Drug Categories ¹	2019		2020		2021	
	Number	Percent	Number	Percent	Number	Percent
Buprenorphine	4,031	0.8	12,707	1.3	16,980	1.4
Codeine	2,406	0.5	32,961	3.3	30,570	2.5
Fentanyl	89,351	17.9	165,457	16.4	208,495	17.2
Heroin	6,302	1.3	16,536	1.6	22,546	1.9
Hydrocodone	30,86	6.2	189,205	18.7	193,341	16.0
Hydromorphone	99,548	20.0	181,814	18.0	220,417	18.2
Levorphanol	1	0.0	67	0.0	128	0.0
Meperidine	2,534	0.5	10,449	1.0	9,283	0.8
Methadone	1,444	0.3	9,626	1.0	13,024	1.1
Morphine	218,915	43.8	366,591	36.3	436,214	36.1
Oxycodone	42,803	8.6	178,177	17.6	210,428	17.4
Oxymorphone	3	0.0	325	0.0	239	0.0
Tramadol	6,508	1.3	66,804	6.6	67,983	5.6
Unspecified Opioid	1,711	0.3	47,585	4.7	198,500	16.4
“Other” Opioid	134	0.0	140,931	13.9	3,684	0.3
Naloxone ²	2,710	0.5	29,939	3.0	49,044	4.1
Naltrexone ²	92	0.0	3,123	0.3	4,157	0.3
Total Encounters	499,529	100.0	1,011,143	100.0	1,201,803	100.0

0.0 Quantity more than zero but less than 0.05

1 Drug categories are not mutually exclusive.

2 Opioid antagonists.

NOTES: NHCS data are unweighted and not nationally representative.

Table 4. Number and percent of 2019, 2020, and 2021 National Hospital Care Survey inpatient encounters with at least one drug mention

Drug Categories ¹	2019		2020		2021	
	Number	Percent	Number	Percent	Number	Percent
Buprenorphine	5,171	0.8	10,088	1.1	16,905	1.3
Codeine	8,055	1.2	14,115	1.5	20,944	1.6
Fentanyl	432,670	62.8	617,240	64.6	884,033	66.6
Heroin	1,425	0.2	2,850	0.3	4,307	0.3
Hydrocodone	79,918	11.6	117,689	12.3	157,419	11.9
Hydromorphone	219,940	31.9	320,536	33.5	475,061	35.8
Levorphanol	11	0.0	119	0.0	117	0.0
Meperidine	14,237	2.1	29,092	3.0	39,229	3.0
Methadone	15,110	2.2	21,433	2.2	31,496	2.4
Morphine	202,300	29.3	262,423	27.5	352,824	26.6
Oxycodone	288,802	41.9	412,605	43.2	571,542	43.1
Oxymorphone	88	0.0	145	0.0	74	0.0
Tramadol	79,224	11.5	107,060	11.2	139,376	10.5
Unspecified Opioid	9,826	1.4	19,642	2.1	149,891	11.3
“Other” Opioid	12,862	1.9	113,305	11.9	42,170	3.2
Naloxone ²	23,613	3.4	58,191	6.1	88,411	6.7
Naltrexone ²	1,863	0.3	3,322	0.4	6,258	0.4
Total Encounters	689,461	100.0	955,573	100.0	1,319,199	100.0

0.0 Quantity more than zero but less than 0.05

1 Drug categories are not mutually exclusive.

2 Opioid antagonists.

NOTES: NHCS data are unweighted and not nationally representative.

RDC Variable Name	Description	Format	Value	Notes
ENCOUNTER_ID	Encounter identifier	Character		Linkage Variable
SETTING	Hospital setting	Character	<p>“ED” = emergency department</p> <p>“IP” = inpatient department</p> <p>“ED-to-IP” = emergency department visits admitted to the inpatient department</p>	<p>Linkage Variable</p> <p>To account for all inpatient or emergency department encounters you must include the encounters with a SETTING value of “ED-toIP”.</p>
FILESOURCE	Source of the data provided by the hospital	Character	<p>“ACEP”, “Claims”, “EHR”</p> <p>“Vizient”</p>	<p>Linkage Variable</p> <p>ACEP only includes ED data</p>
HOSPID	Hospital identifier	Character		Linkage Variable
SURYR	4-digit designation for the year of NHCS data collection	Character	“2019”, “2020”, “2021”	
PATIENT_ID	Patient identifier	Character		<p>Linkage Variable</p> <p>Identifies unique patients. A patient could have multiple encounters.</p>
DATE_BEG	Beginning date of hospital visit	Date	MMDDYYYY	The value for all Vizient hospital visits are the first day of the month
DATE_DIS	Date of discharge from the hospital	Date	MMDDYYYY	The value for all Vizient hospital visits are the first day of the month
OP_INVOLVED	Identifies opioid-involved encounters that were found by the code component and NLP component.	Numeric	<p>0 = “False”</p> <p>1 = “True”</p>	
OP_INVOLVED_CODE	Identifies opioid-involved encounters that were found by the code component of the enhanced algorithm.	Numeric	<p>0 = “False”</p> <p>1 = “True”</p>	

RDC Variable Name	Description	Format	Value	Notes
OP_INVOLVED_NLP	Identifies opioid-involved encounters that were found by NLP component of the enhanced algorithm.	Numeric	0 = "False" 1 = "True"	
OP_TOX	Identifies opioid-involved encounters from positive toxicology results.	Numeric	0 = "False" 1 = "True"	
BUPRENORPHINE	Buprenorphine use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
CODEINE	Codeine use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
FENTANYL	Fentanyl use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
HEROIN	Heroin use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
HYDROCODONE	Hydrocodone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
HYDROMORPHONE	Hydromorphone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
LEVORPHANOL	Levorphanol use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
MEPERIDINE	Meperidine use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	

RDC Variable Name	Description	Format	Value	Notes
METHADONE	Methadone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
MORPHINE	Morphine use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
OXYCODONE	Oxycodone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
OXYMORPHONE	Oxymorphone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
TRAMADOL	Tramadol use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
NALOXONE	Naloxone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
NALTREXONE	Naltrexone use identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
UNSPECIFIED_OPIOID	Use of general or unspecified opioid use (e.g. "opioid" or "opiate" mention) identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	
OTHER_OPIOID	Use of some other, specific type of opioid identified by medical codes, keywords, and/or NLP	Numeric	0 = "False" 1 = "True"	

RDC Variable Name	Description	Format	Value	Notes
OTHER_OPIOID_LIST	Specific opioid terms that do not fall into any of the other buckets (the text of OTH_OPIOID) delimited by semicolons (;).	Character		
OD	Encounters identified as an opioid-involved overdose.	Numeric	0 = "False" 1 = "True"	
OD_CODE	Opioid-involved overdose encounters identified by medical codes or free text search.	Numeric	0 = "False" 1 = "True"	
OD_NLP	Opioid-involved overdose encounters identified by NLP.	Numeric	0 = "False" 1 = "True"	

RESOURCES FOR ADDITIONAL INFORMATION

National Hospital Care Survey. Available from: <https://www.cdc.gov/nchs/nhcs/index.htm>.

National Center for Health Statistics Research Data Center and National Hospital Care Survey Data Dictionary.

Available from:

<https://www.cdc.gov/rdc/data/b1/NHCS-RDC.pdf>

<https://www.cdc.gov/rdc/data/b1/NHCS-RDC-Data-Dictionary.pdf> .

Appendix I: Opioid-Involved Diagnosis Codes

ICD-10-CM Code	Description
F11.9	Opioid use, unspecified
F11.90	Opioid use, unspecified, uncomplicated
F11.92	Opioid use, unspecified with intoxication
F11.920	Opioid use, unspecified with intoxication, uncomplicated
F11.921	Opioid use, unspecified with intoxication delirium
F11.922	Opioid use, unspecified with intoxication with perceptual disturbance
F11.929	Opioid use, unspecified with intoxication, unspecified
F11.93	Opioid use, unspecified with withdrawal
F11.94	Opioid use, unspecified with opioid-induced mood disorder
F11.95	Opioid use, unspecified with opioid-induced psychotic disorder
F11.950	Opioid use, unspecified with opioid-induced psychotic disorder with delusions
F11.951	Opioid use, unspecified with opioid-induced psychotic disorder with hallucinations
F11.959	Opioid use, unspecified with opioid-induced psychotic disorder, unspecified
F11.98	Opioid use, unspecified with other specified opioid-induced disorder
F11.981	Opioid use, unspecified with opioid-induced sexual dysfunction
F11.982	Opioid use, unspecified with opioid-induced sleep disorder
F11.988	Opioid use, unspecified with other opioid-induced disorder
F11.99	Opioid use, unspecified with unspecified opioid-induced disorder
F11.1	Opioid abuse
F11.10	Opioid abuse, uncomplicated
F11.11	Opioid abuse, in remission
F11.12	Opioid abuse with intoxication
F11.120	Opioid abuse with intoxication, uncomplicated
F11.121	Opioid abuse with intoxication delirium
F11.122	Opioid abuse with intoxication with perceptual disturbance
F11.129	Opioid abuse with intoxication, unspecified
F11.14	Opioid abuse with opioid-induced mood disorder
F11.15	Opioid abuse with opioid-induced psychotic disorder

ICD-10-CM Code	Description
F11.150	Opioid abuse with opioid-induced psychotic disorder with delusions
F11.151	Opioid abuse with opioid-induced psychotic disorder with hallucinations
F11.159	Opioid abuse with opioid-induced psychotic disorder, unspecified
F11.18	Opioid abuse with other opioid-induced disorder
F11.181	Opioid abuse with opioid-induced sexual dysfunction
F11.182	Opioid abuse with opioid-induced sleep disorder
F11.188	Opioid abuse with other opioid-induced disorder
F11.19	Opioid abuse with unspecified opioid-induced disorder
F11.2	Opioid dependence
F11.20	Opioid dependence, uncomplicated
F11.21	Opioid dependence, in remission
F11.22	Opioid dependence with intoxication
F11.220	Opioid dependence with intoxication, uncomplicated
F11.221	Opioid dependence with intoxication delirium
F11.222	Opioid dependence with intoxication with perceptual disturbance
F11.229	Opioid dependence with intoxication, unspecified
F11.23	Opioid dependence with withdrawal
F11.24	Opioid dependence with opioid-induced mood disorder
F11.25	Opioid dependence with opioid-induced psychotic disorder
F11.250	Opioid dependence with opioid-induced psychotic disorder with delusions
F11.251	Opioid dependence with opioid-induced psychotic disorder with hallucinations
F11.259	Opioid dependence with opioid-induced psychotic disorder, unspecified
F11.28	Opioid dependence with other opioid-induced disorder
F11.281	Opioid dependence with opioid-induced sexual dysfunction
F11.282	Opioid dependence with opioid-induced sleep disorder
F11.288	Opioid dependence with other opioid-induced disorder
F11.29	Opioid dependence with unspecified opioid-induced disorder
T40.0X1	Poisoning by opium, accidental (unintentional)
T40.0X1A	Poisoning by opium, accidental (unintentional), initial encounter
T40.0X1D	Poisoning by opium, accidental (unintentional), subsequent encounter
T40.0X1S	Poisoning by opium, accidental (unintentional), sequela

ICD-10-CM Code	Description
T40.0X2	Poisoning by opium, intentional self-harm
T40.0X2A	Poisoning by opium, intentional self-harm, initial encounter
T40.0X2D	Poisoning by opium, intentional self-harm, subsequent encounter
T40.0X2S	Poisoning by opium, intentional self-harm, sequela
T40.0X3	Poisoning by opium, assault
T40.0X3A	Poisoning by opium, assault, initial encounter
T40.0X3D	Poisoning by opium, assault, subsequent encounter
T40.0X3S	Poisoning by opium, assault, sequela
T40.0X4	Poisoning by opium, undetermined
T40.0X4A	Poisoning by opium, undetermined, initial encounter
T40.0X4D	Poisoning by opium, undetermined, subsequent encounter
T40.0X4S	Poisoning by opium, undetermined, sequela
T40.1X1	Poisoning by heroin, accidental (unintentional)
T40.1X1A	Poisoning by heroin, accidental (unintentional), initial encounter
T40.1X1D	Poisoning by heroin, accidental (unintentional), subsequent encounter
T40.1X1S	Poisoning by heroin, accidental (unintentional), sequela
T40.1X2	Poisoning by heroin, intentional self-harm
T40.1X2A	Poisoning by heroin, intentional self-harm, initial encounter
T40.1X2D	Poisoning by heroin, intentional self-harm, subsequent encounter
T40.1X2S	Poisoning by heroin, intentional self-harm, sequela
T40.1X3	Poisoning by heroin, assault
T40.1X3A	Poisoning by heroin, assault, initial encounter
T40.1X3D	Poisoning by heroin, assault, subsequent encounter
T40.1X3S	Poisoning by heroin, assault, sequela
T40.1X4	Poisoning by heroin, undetermined
T40.1X4A	Poisoning by heroin, undetermined, initial encounter
T40.1X4D	Poisoning by heroin, undetermined, subsequent encounter
T40.1X4S	Poisoning by heroin, undetermined, sequela
T40.2X1	Poisoning by oth opioids, accidental (unintentional)
T40.2X1A	Poisoning by oth opioids, accidental (unintentional), initial encounter
T40.2X1D	Poisoning by oth opioids, accidental (unintentional), subsequent encounter

ICD-10-CM Code	Description
T40.2X1S	Poisoning by other opioids, accidental (unintentional), sequela
T40.2X2	Poisoning by other opioids, intentional self-harm
T40.2X2A	Poisoning by other opioids, intentional self-harm, initial encounter
T40.2X2D	Poisoning by other opioids, intentional self-harm, subsequent encounter
T40.2X2S	Poisoning by other opioids, intentional self-harm, sequela
T40.2X3	Poisoning by other opioids, assault
T40.2X3A	Poisoning by other opioids, assault, initial encounter
T40.2X3D	Poisoning by other opioids, assault, subsequent encounter
T40.2X3S	Poisoning by other opioids, assault, sequela
T40.2X4	Poisoning by other opioids, undetermined
T40.2X4A	Poisoning by other opioids, undetermined, initial encounter
T40.2X4D	Poisoning by other opioids, undetermined, subsequent encounter
T40.2X4S	Poisoning by other opioids, undetermined, sequela
T40.3X1	Poisoning by methadone, accidental (unintentional)
T40.3X1A	Poisoning by methadone, accidental (unintentional), initial encounter
T40.3X1D	Poisoning by methadone, accidental (unintentional), subsequent encounter
T40.3X1S	Poisoning by methadone, accidental (unintentional), sequela
T40.3X2	Poisoning by methadone, intentional self-harm
T40.3X2A	Poisoning by methadone, intentional self-harm, initial encounter
T40.3X2D	Poisoning by methadone, intentional self-harm, subsequent encounter
T40.3X2S	Poisoning by methadone, intentional self-harm, sequela
T40.3X3	Poisoning by methadone, assault
T40.3X3A	Poisoning by methadone, assault, initial encounter
T40.3X3D	Poisoning by methadone, assault, subsequent encounter
T40.3X3S	Poisoning by methadone, assault, sequela
T40.3X4	Poisoning by methadone, undetermined
T40.3X4A	Poisoning by methadone, undetermined, initial encounter
T40.3X4D	Poisoning by methadone, undetermined, subsequent encounter
T40.3X4S	Poisoning by methadone, undetermined, sequela
T40.4X1	Poisoning by other synthetic narcotics
T40.4X1A	Poisoning by other synthetic narcotics, accidental, initial encounter

ICD-10-CM Code	Description
T40.4X1D	Poisoning by other synthetic narcotics, accidental, subsequent encounter
T40.4X1S	Poisoning by other synthetic narcotics, accidental, sequela
T40.4X2	Poisoning by other synthetic narcotics, self-harm
T40.4X2A	Poisoning by other synthetic narcotics, self-harm, initial encounter
T40.4X2D	Poisoning by other synthetic narcotics, self-harm, subsequent encounter
T40.4X2S	Poisoning by other synthetic narcotics, self-harm, sequela
T40.4X3	Poisoning by other synthetic narcotics, assault
T40.4X3A	Poisoning by other synthetic narcotics, assault, initial encounter
T40.4X3D	Poisoning by other synthetic narcotics, assault, subsequent encounter
T40.4X3S	Poisoning by other synthetic narcotics, assault, sequela
T40.4X4	Poisoning by other synthetic narcotics, undetermined
T40.4X4A	Poisoning by other synthetic narcotics, undetermined, initial encounter
T40.4X4D	Poisoning by other synthetic narcotics, undetermined, subsequent encounter
T40.4X4S	Poisoning by other synthetic narcotics, undetermined, sequela
T40.601	Poisoning by unspecified narcotics, accidental
T40.601A	Poisoning by unspecified narcotics, accidental, initial encounter
T40.601D	Poisoning by unspecified narcotics, accidental, subsequent encounter
T40.601S	Poisoning by unspecified narcotics, accidental, sequela
T40.602	Poisoning by unspecified narcotics, intentional self-harm
T40.602A	Poisoning by unspecified narcotics, intentional self-harm, initial encounter
T40.602D	Poisoning by unspecified narcotics, intentional self-harm, subsequent encounter
T40.602S	Poisoning by unspecified narcotics, intentional self-harm
T40.603	Poisoning by unspecified narcotics, assault
T40.603A	Poisoning by unspecified narcotics, assault, initial encounter
T40.603D	Poisoning by unspecified narcotics, assault, subsequent encounter
T40.603S	Poisoning by unspecified narcotics, assault, sequela
T40.604	Poisoning by unspecified narcotics, undetermined
T40.604A	Poisoning by unspecified narcotics, undetermined, initial encounter
T40.604D	Poisoning by unspecified narcotics, undetermined, subsequent encounter
T40.604S	Poisoning by unspecified narcotics, undetermined, sequela
T40.691	Poisoning by other narcotics, accidental (unintentional)

ICD-10-CM Code	Description
T40.691A	Poisoning by other narcotics, accidental (unintentional), initial encounter
T40.691D	Poisoning by other narcotics, accidental (unintentional), subsequent encounter
T40.691S	Poisoning by other narcotics, accidental (unintentional), sequela
T40.692	Poisoning by other narcotics, intentional self-harm
T40.692A	Poisoning by other narcotics, intentional self-harm, initial encounter
T40.692D	Poisoning by other narcotics, intentional self-harm, subsequent encounter
T40.692S	Poisoning by other narcotics, intentional self-harm, sequela
T40.693	Poisoning by other narcotics, assault
T40.693A	Poisoning by other narcotics, assault, initial encounter
T40.693D	Poisoning by other narcotics, assault, subsequent encounter
T40.693S	Poisoning by other narcotics, assault, sequela
T40.694	Poisoning by other narcotics, undetermined
T40.694A	Poisoning by other narcotics, undetermined, initial encounter
T40.694D	Poisoning by other narcotics, undetermined, subsequent encounter
T40.694S	Poisoning by other narcotics, undetermined, sequela
T40.411A	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), initial encounter
T40.411D	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), subsequent encounter
T40.411S	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), sequela
T40.412A	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, initial encounter
T40.412D	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, subsequent encounter
T40.412S	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, sequela
T40.413A	Poisoning by fentanyl or fentanyl analogs, assault, initial encounter
T40.413D	Poisoning by fentanyl or fentanyl analogs, assault, subsequent encounter
T40.413S	Poisoning by fentanyl or fentanyl analogs, assault, sequela
T40.414A	Poisoning by fentanyl or fentanyl analogs, undetermined, initial encounter
T40.414D	Poisoning by fentanyl or fentanyl analogs, undetermined, subsequent encounter
T40.414S	Poisoning by fentanyl or fentanyl analogs, undetermined, sequela
T40.421A	Poisoning by tramadol, accidental (unintentional), initial encounter
T40.421D	Poisoning by tramadol, accidental (unintentional), subsequent encounter
T40.421S	Poisoning by tramadol, accidental (unintentional), sequela
T40.422A	Poisoning by tramadol, intentional self-harm, initial encounter

ICD-10-CM Code	Description
T40.422D	Poisoning by tramadol, intentional self-harm, subsequent encounter
T40.422S	Poisoning by tramadol, intentional self-harm, sequela
T40.423A	Poisoning by tramadol, assault, initial encounter
T40.423D	Poisoning by tramadol, assault, subsequent encounter
T40.423S	Poisoning by tramadol, assault, sequela
T40.424A	Poisoning by tramadol, undetermined, initial encounter
T40.424D	Poisoning by tramadol, undetermined, subsequent encounter
T40.424S	Poisoning by tramadol, undetermined, sequela
T40.491A	Poisoning by other synthetic narcotics, accidental (unintentional), initial encounter
T40.491D	Poisoning by other synthetic narcotics, accidental (unintentional), subsequent encounter
T40.491S	Poisoning by other synthetic narcotics, accidental (unintentional), sequela
T40.492A	Poisoning by other synthetic narcotics, intentional self-harm, initial encounter
T40.492D	Poisoning by other synthetic narcotics, intentional self-harm, subsequent encounter
T40.492S	Poisoning by other synthetic narcotics, intentional self-harm, sequela
T40.493A	Poisoning by other synthetic narcotics, assault, initial encounter
T40.493D	Poisoning by other synthetic narcotics, assault, subsequent encounter
T40.493S	Poisoning by other synthetic narcotics, assault, sequela
T40.494A	Poisoning by other synthetic narcotics, undetermined, initial encounter
T40.494D	Poisoning by other synthetic narcotics, undetermined, subsequent encounter
T40.494S	Poisoning by other synthetic narcotics, undetermined, sequela
T40.0X5	Adverse effect of opium
T40.0X5A	Adverse effect of opium, initial encounter
T40.0X5D	Adverse effect of opium, subsequent encounter
T40.0X5S	Adverse effect of opium, sequela
T40.2X5	Adverse effect of other opioids
T40.2X5A	Adverse effect of other opioids, initial encounter
T40.2X5D	Adverse effect of other opioids, subsequent encounter
T40.2X5S	Adverse effect of other opioids, sequela
T40.3X5	Adverse effect of methadone
T40.3X5A	Adverse effect of methadone, initial encounter
T40.3X5D	Adverse effect of methadone, subsequent encounter

ICD-10-CM Code	Description
T40.3X5S	Adverse effect of methadone, sequela
T40.4X5	Adverse effect of other synthetic narcotics
T40.4X5A	Adverse effect of other synthetic narcotics, initial encounter
T40.4X5D	Adverse effect of other synthetic narcotics, subsequent encounter
T40.4X5S	Adverse effect of other synthetic narcotics, sequela
T40.605	Adverse effect of unspecified narcotics
T40.605A	Adverse effect of unspecified narcotics, initial encounter
T40.605D	Adverse effect of unspecified narcotics, subsequent encounter
T40.605S	Adverse effect of unspecified narcotics, sequela
T40.695	Adverse effect of other narcotics
T40.695A	Adverse effect of other narcotics, initial encounter
T40.695D	Adverse effect of other narcotics, subsequent encounter
T40.695S	Adverse effect of other narcotics, sequela
T40.495A	Adverse effect of other synthetic narcotics, initial encounter
T40.495D	Adverse effect of other synthetic narcotics, subsequent encounter
T40.495S	Adverse effect of other synthetic narcotics, sequela
T40.0X6	Underdosing of opium
T40.0X6A	Underdosing of opium, initial encounter
T40.0X6D	Underdosing of opium, subsequent encounter
T40.0X6S	Underdosing of opium, sequela
T40.2X6	Underdosing of other opioids
T40.2X6A	Underdosing of other opioids, initial encounter
T40.2X6D	Underdosing of other opioids, subsequent encounter
T40.2X6S	Underdosing of other opioids, sequela
T40.3X6	Underdosing of methadone
T40.3X6A	Underdosing of methadone, initial encounter
T40.3X6D	Underdosing of methadone, subsequent encounter
T40.3X6S	Underdosing of methadone, sequela
T40.4X6	Underdosing of other synthetic narcotics
T40.4X6A	Underdosing of other synthetic narcotics, initial encounter
T40.4X6D	Underdosing of other synthetic narcotics, subsequent encounter

ICD-10-CM Code	Description
T40.4X6S	Underdosing of other synthetic narcotics, sequela
T40.606	Underdosing of unspecified narcotics
T40.606A	Underdosing of unspecified narcotics, initial encounter
T40.606D	Underdosing of unspecified narcotics, subsequent encounter
T40.606S	Underdosing of unspecified narcotics, sequela
T40.696	Underdosing of other narcotics
T40.696A	Underdosing of other narcotics, initial encounter
T40.696D	Underdosing of other narcotics, subsequent encounter
T40.696S	Underdosing of other narcotics, sequela
T40.496A	Underdosing of other synthetic narcotics, initial encounter
T40.496D	Underdosing of other synthetic narcotics, subsequent encounter
T40.496S	Underdosing of other synthetic narcotics, sequela
Z79.891	Long term (current) use of opiate analgesic
R78.1	Finding of opiate drug in blood
P04.14	Newborn affected by maternal use of opiates
P96.1	Neonatal withdrawal symptoms from maternal use of drugs of addiction

Appendix II: Opioid-Involved Overdose Codes

ICD-10-CM Code	Description
F11.92	Opioid use, unspecified with intoxication
F11.920	Opioid use, unspecified with intoxication, uncomplicated
F11.921	Opioid use, unspecified with intoxication delirium
F11.922	Opioid use, unspecified with intoxication with perceptual disturbance
F11.929	Opioid use, unspecified with intoxication, unspecified
F11.12	Opioid abuse with intoxication
F11.120	Opioid abuse with intoxication, uncomplicated
F11.121	Opioid abuse with intoxication delirium
F11.122	Opioid abuse with intoxication with perceptual disturbance
F11.129	Opioid abuse with intoxication, unspecified
F11.22	Opioid dependence with intoxication
F11.220	Opioid dependence with intoxication, uncomplicated
F11.221	Opioid dependence with intoxication delirium
F11.222	Opioid dependence with intoxication with perceptual disturbance
F11.229	Opioid dependence with intoxication, unspecified
T40.X1	Poisoning by opium, accidental (unintentional)
T40.OX1A	Poisoning by opium, accidental (unintentional), initial encounter
T40.OX1D	Poisoning by opium, accidental (unintentional), subsequent encounter
T40.OX1S	Poisoning by opium, accidental (unintentional), sequela
T40.OX2	Poisoning by opium, intentional self-harm
T40.OX2A	Poisoning by opium, intentional self-harm, initial encounter
T40.OX2D	Poisoning by opium, intentional self-harm, subsequent encounter
T40.OX2S	Poisoning by opium, intentional self-harm, sequela
T40.OX3	Poisoning by opium, assault
T40.OX3A	Poisoning by opium, assault, initial encounter

ICD-10-CM Code	Description
T40.0X3D	Poisoning by opium, assault, subsequent encounter
T40.0X3S	Poisoning by opium, assault, sequela
T40.0X4	Poisoning by opium, undetermined
T40.0X4A	Poisoning by opium, undetermined, initial encounter
T40.0X4D	Poisoning by opium, undetermined, subsequent encounter
T40.0X4S	Poisoning by opium, undetermined, sequela
T40.1X1	Poisoning by heroin, accidental (unintentional)
T40.1X1A	Poisoning by heroin, accidental (unintentional), initial encounter
T40.1X1D	Poisoning by heroin, accidental (unintentional), subsequent encounter
T40.1X1S	Poisoning by heroin, accidental (unintentional), sequela
T40.1X2	Poisoning by heroin, intentional self-harm
T40.1X2A	Poisoning by heroin, intentional self-harm, initial encounter
T40.1X2D	Poisoning by heroin, intentional self-harm, subsequent encounter
T40.1X2S	Poisoning by heroin, intentional self-harm, sequela
T40.1X3	Poisoning by heroin, assault
T40.1X3A	Poisoning by heroin, assault, initial encounter
T40.1X3D	Poisoning by heroin, assault, subsequent encounter
T40.1X3S	Poisoning by heroin, assault, sequela
T40.1X4	Poisoning by heroin, undetermined
T40.1X4A	Poisoning by heroin, undetermined, initial encounter
T40.1X4D	Poisoning by heroin, undetermined, subsequent encounter
T40.1X4S	Poisoning by heroin, undetermined, sequela
T40.2X1	Poisoning by other opioids, accidental (unintentional)
T40.2X1A	Poisoning by other opioids, accidental (unintentional), initial encounter
T40.2X1D	Poisoning by other opioids, accidental (unintentional), subsequent encounter
T40.2X1S	Poisoning by other opioids, accidental (unintentional), sequela
T40.2X2	Poisoning by other opioids, intentional self-harm
T40.2X2A	Poisoning by other opioids, intentional self-harm, initial encounter

ICD-10-CM Code	Description
T40.2X2D	Poisoning by other opioids, intentional self-harm, subsequent encounter
T40.2X2S	Poisoning by other opioids, intentional self-harm, sequela
T40.2X3	Poisoning by other opioids, assault
T40.2X3A	Poisoning by other opioids, assault, initial encounter
T40.2X3D	Poisoning by other opioids, assault, subsequent encounter
T40.2X3S	Poisoning by other opioids, assault, sequela
T40.2X4	Poisoning by other opioids, undetermined
T40.2X4A	Poisoning by other opioids, undetermined, initial encounter
T40.2X4D	Poisoning by other opioids, undetermined, subsequent encounter
T40.2X4S	Poisoning by other opioids, undetermined, sequela
T40.3X1	Poisoning by methadone, accidental (unintentional)
T40.3X1A	Poisoning by methadone, accidental (unintentional), initial encounter
T40.3X1D	Poisoning by methadone, accidental (unintentional), subsequent encounter
T40.3X1S	Poisoning by methadone, accidental (unintentional), sequela
T40.3X2	Poisoning by methadone, intentional self-harm
T40.3X2A	Poisoning by methadone, intentional self-harm, initial encounter
T40.3X2D	Poisoning by methadone, intentional self-harm, subsequent encounter
T40.3X2S	Poisoning by methadone, intentional self-harm, sequela
T40.3X3	Poisoning by methadone, assault
T40.3X3A	Poisoning by methadone, assault, initial encounter
T40.3X3D	Poisoning by methadone, assault, subsequent encounter
T40.3X3S	Poisoning by methadone, assault
T40.3X4	Poisoning by methadone, undetermined
T40.3X4A	Poisoning by methadone, undetermined, initial encounter
T40.3X4D	Poisoning by methadone, undetermined, subsequent encounter
T40.3X4S	Poisoning by methadone, undetermined, sequela
T40.4X1	Poisoning by other synthetic narcotics
T40.4X1A	Poisoning by other synthetic narcotics, accidental, initial encounter

ICD-10-CM Code	Description
T40.4X1D	Poisoning by other synthetic narcotics, accidental, subsequent encounter
T40.4X1S	Poisoning by other synthetic narcotics, accidental, sequela
T40.4X2	Poisoning by other synthetic narcotics, self-harm
T40.4X2A	Poisoning by other synthetic narcotics, self-harm, initial encounter
T40.4X2D	Poisoning by other synthetic narcotics, self-harm, subsequent encounter
T40.4X2S	Poisoning by other synthetic narcotics, self-harm, sequela
T40.4X3	Poisoning by other synthetic narcotics, assault
T40.4X3A	Poisoning by other synthetic narcotics, assault, initial encounter
T40.4X3D	Poisoning by other synthetic narcotics, assault, subsequent encounter
T40.4X3S	Poisoning by other synthetic narcotics, assault, sequela
T40.4X4	Poisoning by other synthetic narcotics, undetermined
T40.4X4A	Poisoning by other synthetic narcotics, undetermined, initial encounter
T40.4X4D	Poisoning by other synthetic narcotics, undetermined, subs
T40.4X4S	Poisoning by other synthetic narcotics, undetermined, sequela
T40.601	Poisoning by unspecified narcotics, accidental
T40.601A	Poisoning by unspecified narcotics, accidental, initial encounter
T40.601D	Poisoning by unspecified narcotics, accidental, subs
T40.601S	Poisoning by unspecified narcotics, accidental, sequela
T40.602	Poisoning by unspecified narcotics, intentional self-harm
T40.602A	Poisoning by unspecified narcotics, intentional self-harm, initial encounter
T40.602D	Poisoning by unspecified narcotics, intentional self-harm, subs
T40.602S	Poisoning by unspecified narcotics, intentional self-harm
T40.603	Poisoning by unspecified narcotics, assault
T40.603A	Poisoning by unspecified narcotics, assault, initial encounter
T40.603D	Poisoning by unspecified narcotics, assault, subsequent encounter
T40.603S	Poisoning by unspecified narcotics, assault, sequela
T40.604	Poisoning by unspecified narcotics, undetermined
T40.604A	Poisoning by unspecified narcotics, undetermined, initial encounter

ICD-10-CM Code	Description
T40.604D	Poisoning by unspecified narcotics, undetermined, subsequent encounter
T40.604S	Poisoning by unspecified narcotics, undetermined, sequela
T40.691	Poisoning by other narcotics, accidental (unintentional)
T40.691A	Poisoning by other narcotics, accidental (unintentional), initial encounter
T40.691D	Poisoning by other narcotics, accidental (unintentional), subsequent encounter
T40.691S	Poisoning by other narcotics, accidental (unintentional), sequela
T40.692	Poisoning by other narcotics, intentional self-harm
T40.692A	Poisoning by other narcotics, intentional self-harm, initial encounter
T40.692D	Poisoning by other narcotics, intentional self-harm, subsequent encounter
T40.692S	Poisoning by other narcotics, intentional self-harm, sequela
T40.693	Poisoning by other narcotics, assault
T40.693A	Poisoning by other narcotics, assault, initial encounter
T40.693D	Poisoning by other narcotics, assault, subsequent encounter
T40.693S	Poisoning by other narcotics, assault, sequela
T40.694	Poisoning by other narcotics, undetermined
T40.694A	Poisoning by other narcotics, undetermined, initial encounter
T40.694D	Poisoning by other narcotics, undetermined, subsequent encounter
T40.694S	Poisoning by other narcotics, undetermined, sequela
T40.411A	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), initial encounter
T40.411D	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), subsequent encounter
T40.411S	Poisoning by fentanyl or fentanyl analogs, accidental (unintentional), sequela
T40.412A	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, initial encounter
T40.412D	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, subsequent encounter
T40.412S	Poisoning by fentanyl or fentanyl analogs, intentional self-harm, sequela
T40.413A	Poisoning by fentanyl or fentanyl analogs, assault, initial encounter
T40.413D	Poisoning by fentanyl or fentanyl analogs, assault, subsequent encounter
T40.413S	Poisoning by fentanyl or fentanyl analogs, assault, sequela
T40.414A	Poisoning by fentanyl or fentanyl analogs, undetermined, initial encounter

ICD-10-CM Code	Description
T40.414D	Poisoning by fentanyl or fentanyl analogs, undetermined, subsequent encounter
T40.414S	Poisoning by fentanyl or fentanyl analogs, undetermined, sequela
T40.421A	Poisoning by tramadol, accidental (unintentional), initial encounter
T40.421D	Poisoning by tramadol, accidental (unintentional), subsequent encounter
T40.421S	Poisoning by tramadol, accidental (unintentional), sequela
T40.422A	Poisoning by tramadol, intentional self-harm, initial encounter
T40.422D	Poisoning by tramadol, intentional self-harm, subsequent encounter
T40.422S	Poisoning by tramadol, intentional self-harm, sequela
T40.423A	Poisoning by tramadol, assault, initial encounter
T40.423D	Poisoning by tramadol, assault, subsequent encounter
T40.423S	Poisoning by tramadol, assault, sequela
T40.424A	Poisoning by tramadol, undetermined, initial encounter
T40.424D	Poisoning by tramadol, undetermined, subsequent encounter
T40.424S	Poisoning by tramadol, undetermined, sequela
T40.491A	Poisoning by other synthetic narcotics, accidental (unintentional), initial encounter
T40.491D	Poisoning by other synthetic narcotics, accidental (unintentional), subsequent encounter
T40.491S	Poisoning by other synthetic narcotics, accidental (unintentional), sequela
T40.492A	Poisoning by other synthetic narcotics, intentional self-harm, initial encounter
T40.492D	Poisoning by other synthetic narcotics, intentional self-harm, subsequent encounter
T40.492S	Poisoning by other synthetic narcotics, intentional self-harm, sequela
T40.493A	Poisoning by other synthetic narcotics, assault, initial encounter
T40.493D	Poisoning by other synthetic narcotics, assault, subsequent encounter
T40.493S	Poisoning by other synthetic narcotics, assault, sequela
T40.494A	Poisoning by other synthetic narcotics, undetermined, initial encounter
T40.494D	Poisoning by other synthetic narcotics, undetermined, subsequent encounter
T40.494S	Poisoning by other synthetic narcotics, undetermined, sequela

Appendix III: Opioid Medication

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Acetaminophen / Butalbital / Caffeine / Codeine	689561	768587007, 774947003
Acetaminophen / Butalbital / Codeine	689563	
Acetaminophen / Codeine	817579	412556009, 775360007
Acetaminophen / Codeine / Guaifenesin / Pseudoephedrine	1007572	412286001
Buprenorphine	1819	387173000, 31684002, 774936005
Buprenorphine Hydrochloride	203841	2106609
Buprenorphine inj (injection)	1729358	781794006
Buprenorphine SL tab	371161	322498006, 322492007, 322496005, 322497001
Buprenorphine TD	1295269	769238002, 778570009
Buprenorphine/Naloxone	352364	425741009, 744937001
Codeine	2670	387494007, 85990009, 775354007
Codeine / Diclofenac	1008110	363598004
Codeine / Guaifenesin	214442	412356005, 775356009
Codeine / Phenylephrine / Promethazine	214449	412279009, 775361006
Codeine / Promethazine	214444	786165006, 786750004
Codeine Hydrochloride	1115966	766880009
Codeine Inj (Injectable)	371609, 1155183	781814002

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Codeine Phosphate	2672	261000
Codeine Sulfate	91104	1476002
Codeine Tab	371613	350298003, 778849005,
Codeine/Acetaminophen liquid	1155597, 370751	767783007, 778848002
Codeine/Acetaminophen tab	370754	767783007, 778848002
Fentanyl	4337	373492002, 40648001, 775934002
Fentanyl Citrate	142436	29190006
Fentanyl Hydrochloride	1652097	
Fentanyl Injection (Im/lv)	1735002	78188408
Fentanyl Transdermal	1294794	769240007, 779245001
Fentanyl Transmucosal Lozenge	1294774	784202001, 784203006,
Fentanyl Disintegrating Tablet	668362	424374001, 422583006, 424546005, 423178001 , 423915006, 426740000
Fentanyl SI Spray	1294974	
Fentanyl Citrate Transmucosal	1159058	
Fentanyl Citrate Nasal	1159057	
Fentanyl Citrate Buccal (SI Film)	858086	443196002, 443140009, 443104007, 443105008, 443193005
Heroin	3304	387341002
Hydrocodone	5489	372671002, 2032002, 776243007
Acetaminophin/Hydrocodone	214182	768400008, 776245000
Aspirin / Hydrocodone	214253	768404004, 774671008

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Hydrocodone/Ibuprofen	214627	768401007, 776244001
Hydrocodone Bitartrate	142439	3874004
Hydrocodone Hydrochloride	236931	
Hydrocodone Polisterix	221107	736862006
Hydrocodone/Acetaminophen tab	370641	768403005, 779483002,
Hydrocodone/Acetaminophen liquid	1151548, 370759	768403005, 779483002,
Hydrocodone/Ibuprofen tab	370676	768402000, 779482007,
Hydromorphone	3423	44508008,414428000, 776264006
Atropine / Hydromorphone	1007561	
Guaifenesin / Hydromorphone	214594	
Hydromorphone Hydrochloride	203177	387485001
Hydromorphone Tab	370654	438139007, 779503002,
Hydromorphone Liquid	1164619, 370653	438139007, 779503002,
Hydromorphone INJ (Injection)	1724207	785028004, 785027009, 781934002, 781935001
Hydromorphone ER (Extended Release)	902728	438139007, 779503002,
Levorphanol	6378	387275004,50335004, 776524006
Levorphanol Tartrate	153973	67347006
Levorphanol Tab	372593	768964007, 779695008,
Levorphanol INJ (Injectable)	1163479	
Meperidine	6754	387298007,54544005, 777149005
Meperidine / Promethazine	214699	420348003, 777150005

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Acetaminophen / Meperidine	689788	
Atropine / Meperidine	689609	
Meperidine Hydrochloride	103755	2878005
Meperidine Tab	372766	772679009, 780178002,
Meperidine Liquid	1160384, 60800	772679009, 780178002,
Meperidine INJ (Injection)	1665037	781979003, 781978006
Methadone	6813	387286002, 51758009, 776719005
Methadone Hydrochloride	218337	23883005
Methadone Tab	372808	350295000, 779834007, 376782004, 322591003
Methadone Liquid	1161620, 372806	350295000, 779834007, 766493009, 370238000, 766494003, 766492004, 784709009, 767081004
Methadone INJ (Injectable)	1161619, 372807	781982008
Morphine	7052	373529000, 73572009, 773372004
Morphine / Naltrexone	866331	783809007, 783810002
Atropine / Morphine	689610	
Morphine Sulfate	30236	60886004
Morphine Sulfate Liposomal	477397	426952001
Morphine Tartrate	235774	442424007
Morphine IR (Immediate Release)	372959	350301004, 773374003,
Morphine Liquid	1156362, 106841	350301004, 773374003,
Morphine INJ (Injection)		782004007, 782006009, 782007000, 782005008,

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Morphine INJ (Injection)	1728776	785132007
Morphine Suppository (Rectal)	372957	346583000, 773375002,
Morphine CR (Continuous Release)	372960	350301004, 773374003,
Oxycodone	7804	55452001,414984009, 777027001
Oxycodone/Acetaminophen	214183	772959003, 777028006
Oxycodone/Aspirin	214256	767923000, 774677007
Ibuprofen / Oxycodone	484259	414443003, 776290009
Naloxone / Oxycodone	1545902	715845001, 776864003
Naltrexone / Oxycodone	1806700	
Oxycodone Hydrochloride	82063	387024006
Oxycodone Terephthalate	159821	116352007
Oxycodone Tab	373198	430127000, 780093001,
Oxycodone Cap	373195	430127000, 780093001,
Oxycodone Liquid	1161681, 373196	430127000, 780093001,
Oxycodone/ Acetaminophen Tab	373200	772659001, 780092006,
Oxycodone/ Acetaminophen Cap	375581	772659001, 780092006,
Oxycodone/ Acetaminophen Liquid	1151889, 373199	772659001, 780092006,
Oxycodone Cr		430127000, 780093001,
Oxycodone Er	385094, 1790526	430127000, 780093001,
Oxycodone/ Acetaminophen ER tab	1491831	772659001, 780092006,
OXYMORPHONE	7814	24751001,370266008, 777032000
Oxymorphone Hydrochloride	82064	69899006

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Oxymorphone INJ (injection)	1809679	
Oxymorphone IR	643113	772660006, 780099002,424178008, 423970009
Oxymorphone CR	643115	772660006, 780099002,
Tramadol	10689	386858008,108507005, 777816004
Tramadol/Acetaminophen	352362	413396001, 777074005
Tramadol Hydrochloride	82110	108505002
Tramadol Tab	374173	767779007, 780674004
Tramadol CR	374174	767779007, 780674004

Appendix IV: Opioid Involved Procedures and Services

HCPCS Code	Drug Name
J0570	Buprenorphine
J0571	Buprenorphine
J0592	Buprenorphine inj (injection)
J0572	Buprenorphine/Naloxone
J0573	Buprenorphine/Naloxone
J0574	Buprenorphine/Naloxone
J0575	Buprenorphine/Naloxone
J0595	Butorphanol
J0745	Codeine inj (Injectable)
J1810	Fentanyl injection (IM/IV)
J3010	Fentanyl injection (IM/IV)
J1170	Hydromorphone inj (injection)
J1960	Levorphanol inj (injectable)
J2175	Meperidine inj (injection)
J2180	Meperidine inj (injection)
J1230	Methadone liquid
J2270	Morphine inj (injection)
J2274	Morphine inj (injection)
J2271	Morphine inj (injection)
J2275	Morphine inj (injection)
J2300	Nalbuphine
J2410	Oxymorphone inj (injection)
J2440	Papaverine
J3070	Pentazocine

Appendix V: Opioid Involved Laboratory Codes

LOINC Code	Description
16248-7	6-monoacetylmorphine free [Mass/volume] in Serum or Plasma by Confirmatory method
18343-4	6-Monoacetylmorphine (6-MAM) [Presence] in Serum or Plasma by Screen method
19321-9	6-Monoacetylmorphine (6-MAM) [Presence] in Urine by Screen method
19322-7	6-Monoacetylmorphine (6-MAM) [Presence] in Urine by Confirmatory method
19323-5	6-Monoacetylmorphine (6-MAM) cutoff [Mass/volume] in Urine for Screen method
19324-3	6-Monoacetylmorphine (6-MAM) cutoff [Mass/volume] in Urine for Confirmatory method
19593-3	6-Monoacetylmorphine (6-MAM) [Mass/volume] in Urine by Confirmatory method
43184-1	6-Monoacetylmorphine (6-MAM) [Presence] in Serum or Plasma by Confirmatory method
47004-7	6-monoacetylmorphine free [Mass/volume] in Urine by Confirmatory method
70197-9	6-Monoacetylmorphine (6-MAM) [Moles/volume] in Urine by Confirmatory method
72763-6	6-Monoacetylmorphine (6-MAM) [Mass/volume] in Saliva (oral fluid) by Confirmatory method
74677-6	6-Monoacetylmorphine (6-MAM) [Presence] in Saliva (oral fluid) by Confirmatory method
77755-7	6-Monoacetylmorphine (6-MAM) cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
78759-8	6-Monoacetylmorphine (6-MAM) [Presence] in Blood by Screen method
78760-6	6-Monoacetylmorphine (6-MAM) [Presence] in Body fluid by Screen method
80115-9	6-Monoacetylmorphine (6-MAM) [Mass/volume] in Blood by Confirmatory method
80116-7	6-Monoacetylmorphine (6-MAM) [Mass/volume] in Body fluid by Confirmatory method
87816-5	6-Monoacetylmorphine (6-MAM) [Presence] in Saliva (oral fluid) by Screen method
58359-1	Buprenorphine+Norbuprenorphine [Presence] in Urine by Screen method
79139-2	Buprenorphine [Presence] in Blood by Screen method
82372-4	Buprenorphine [Presence] in Gastric fluid by Screen method
77205-3	Buprenorphine [Presence] in Meconium by Screen method
73942-5	Buprenorphine [Presence] in Saliva (oral fluid) by Screen method
82369-0	Buprenorphine [Presence] in Serum or Plasma by Screen method
82373-2	Buprenorphine [Presence] in Unspecified specimen by Screen method
77787-0	Buprenorphine cutoff [Mass/volume] in Urine for Screen method
91027-3	Buprenorphine-3-glucuronide [Presence] in Urine by Screen method
77201-2	Buprenorphine+Norbuprenorphine [Presence] in Saliva (oral fluid) by Confirmatory method
72762-8	Buprenorphine [Mass/volume] in Saliva (oral fluid) by Confirmatory method
53846-2	Buprenorphine [Mass/volume] in Serum or Plasma by Confirmatory method
49752-9	Buprenorphine [Mass/volume] in Urine by Confirmatory method

LOINC Code	Description
75367-3	Buprenorphine [Mass/mass] in Meconium by Confirmatory method
79138-4	Buprenorphine [Presence] in Blood by Confirmatory method
77204-6	Buprenorphine [Presence] in Saliva (oral fluid) by Confirmatory method
16208-1	Buprenorphine [Presence] in Urine by Confirmatory method
78811-7	Buprenorphine cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
77764-9	Buprenorphine cutoff [Mass/volume] in Urine for Confirmatory method
89321-4	Buprenorphine-3-glucuronide [Mass/volume] in Serum or Plasma by Confirmatory method
82370-8	Norbuprenorphine [Presence] in Gastric fluid by Screen method
82374-0	Norbuprenorphine [Presence] in Serum or Plasma by Screen method
82371-6	Norbuprenorphine [Presence] in Urine by Screen method
82375-7	Norbuprenorphine [Presence] in Unspecified specimen by Screen method
89305-7	Norbuprenorphine-3-glucuronide [Presence] in Urine by Screen method
72746-1	Norbuprenorphine [Mass/volume] in Saliva (oral fluid) by Confirmatory method
53880-1	Norbuprenorphine [Mass/volume] in Serum or Plasma by Confirmatory method
49751-1	Norbuprenorphine [Mass/volume] in Urine by Confirmatory method
75379-8	Norbuprenorphine [Mass/mass] in Meconium by Confirmatory method
77206-1	Norbuprenorphine [Presence] in Saliva (oral fluid) by Confirmatory method
66131-4	Norbuprenorphine [Presence] in Serum or Plasma by Confirmatory method
58362-5	Norbuprenorphine [Presence] in Urine by Confirmatory method
78866-1	Norbuprenorphine cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
77774-8	Norbuprenorphine cutoff [Mass/volume] in Urine for Confirmatory method
89322-2	Norbuprenorphine-3-glucuronide [Mass/volume] in Serum or Plasma by Confirmatory method
19411-8	Codeine [Presence] in Urine by Screen method
19413-4	Codeine cutoff [Mass/volume] in Urine for Screen method
46262-2	Codeine Free [Presence] in Serum or Plasma by Screen method
89310-7	Codeine-6-glucuronide [Presence] in Urine by Screen method
72759-4	Codeine [Mass/volume] in Saliva (oral fluid) by Confirmatory method
86226-8	Codeine [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
16250-3	Codeine [Mass/volume] in Urine by Confirmatory method
68542-0	Codeine [Mass/mass] in Meconium by Confirmatory method
74675-0	Codeine [Presence] in Saliva (oral fluid) by Confirmatory method
16197-6	Codeine [Presence] in Urine by Confirmatory method

LOINC Code	Description
13641-6	Codeine [Presence] in Urine by SAMHSA confirm method
70206-8	Codeine [Moles/volume] in Urine by Confirmatory method
77767-2	Codeine cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
19414-2	Codeine cutoff [Mass/volume] in Urine for Confirmatory method
16644-7	Codeine Free [Presence] in Serum or Plasma by Confirmatory method
19439-9	Diamorphine [Presence] in Urine by Screen method
19441-5	Diamorphine cutoff [Mass/volume] in Urine for Screen method
16756-9	Diamorphine [Mass/volume] in Serum or Plasma by Confirmatory method
16755-1	Diamorphine [Mass/volume] in Urine by Confirmatory method
16198-4	Diamorphine [Presence] in Urine by Confirmatory method
19442-3	Diamorphine cutoff [Mass/volume] in Urine for Confirmatory method
46257-2	Dihydrocodeine+Hydrocodol [Presence] in Serum or Plasma by Screen method
19446-4	Dihydrocodeine [Presence] in Urine by Screen method
19450-6	Dihydrocodeine cutoff [Mass/volume] in Urine for Screen method
46704-3	Dihydrocodeine Free+Hydrocodol Free [Mass/volume] in Serum or Plasma by Screen method
46703-5	Dihydrocodeine Free+Hydrocodol Free [Presence] in Serum or Plasma by Screen method
74811-1	Dihydrocodeine [Mass/volume] in Saliva (oral fluid) by Confirmatory method
86227-6	Dihydrocodeine [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
19448-0	Dihydrocodeine [Mass/volume] in Urine by Confirmatory method
16211-5	Dihydrocodeine [Presence] in Urine by Confirmatory method
19451-4	Dihydrocodeine cutoff [Mass/volume] in Urine for Confirmatory method
16775-9	Dihydrocodeine Free [Presence] in Serum or Plasma by Confirmatory method
15401-3	Drugs identified in Blood by Screen method
34601-5	Drugs identified in Body fluid
12287-9	Drugs identified in Gastric fluid by Screen method
27034-8	Drugs identified in Hair by Screen method
64126-6	Drugs identified in Meconium by Confirmatory method
32797-3	Drugs identified in Meconium by Screen method
42326-9	Drugs identified in Mother's milk by Screen method
20785-2	Drugs identified in Serum or Plasma by Screen method
27208-8	Drugs identified in Stool by Screen method
20786-0	Drugs identified in Tissue by Screen method

LOINC Code	Description
16793-2	Drugs identified in Unknown substance by Screen method
41270-0	Drugs identified in Urine
40464-0	Drugs identified in Urine by Confirmatory method
12286-1	Drugs identified in Urine by Screen method
12289-5	Drugs identified in Vitreous fluid by Screen method
40585-2	Drugs identified in Unspecified specimen by Confirmatory method
20787-8	Drugs identified in Unspecified specimen by Screen method
51782-1	Drugs of abuse 7 and Alcohol and Tricyclics panel - Urine by Screen method
24349-3	Drugs of abuse 5 panel - Urine
65750-2	Drugs of abuse 5 panel - Urine by Screen method
72479-9	Drugs of abuse panel - Blood by Screen method
91054-7	Drugs of abuse panel - Body fluid
91056-2	Drugs of abuse panel - Hair
49046-6	Drugs of abuse panel - Meconium
91055-4	Drugs of abuse panel - Tissue
69739-1	Drugs of abuse panel - Urine by Screen method
87428-9	Drugs of abuse screen W Reflex confirm panel - Urine
58738-6	Drugs of abuse [Interpretation] in Meconium
58379-9	Fentanyl+Norfentanyl [Presence] in Urine by Screen method
73936-7	Fentanyl [Presence] in Blood by Screen method
87815-7	Fentanyl [Presence] in Saliva (oral fluid) by Screen method
59673-4	Fentanyl [Presence] in Urine by Screen method
79260-6	Fentanyl cutoff [Mass/volume] in Urine for Screen method
66130-6	Fentanyl+Norfentanyl [Presence] in Serum or Plasma by Confirmatory method
66129-8	Fentanyl+Norfentanyl [Presence] in Urine by Confirmatory method
74810-3	Acetyl fentanyl [Presence] in Urine by Confirmatory method
73938-3	Fentanyl [Mass/volume] in Blood by Confirmatory method
72760-2	Fentanyl [Mass/volume] in Saliva (oral fluid) by Confirmatory method
74136-3	Fentanyl [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
58381-5	Fentanyl [Mass/volume] in Urine by Confirmatory method
40839-3	Fentanyl [Presence] in Urine by Confirmatory method
78827-3	Fentanyl cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method

LOINC Code	Description
79259-8	Fentanyl cutoff [Mass/volume] in Urine for Confirmatory method
66129-8	Fentanyl+Norfentanyl [Presence] in Urine by Confirmatory method
86223-5	Acetyl norfentanyl [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
73937-5	Norfentanyl [Mass/volume] in Blood by Confirmatory method
72745-3	Norfentanyl [Mass/volume] in Saliva (oral fluid) by Confirmatory method
74137-1	Norfentanyl [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
58383-1	Norfentanyl [Mass/volume] in Urine by Confirmatory method
43200-5	Norfentanyl [Presence] in Urine by Confirmatory method
78867-9	Norfentanyl cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
77775-5	Norfentanyl cutoff [Mass/volume] in Urine for Confirmatory method
19482-9	Hydrocodone [Presence] in Urine by Screen method
19484-5	Hydrocodone cutoff [Mass/volume] in Urine for Screen method
74760-0	Hydrocodone and metabolites panel - Urine by Confirmatory method
72753-7	Hydrocodone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
86229-2	Hydrocodone [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
16252-9	Hydrocodone [Mass/volume] in Urine by Confirmatory method
68544-6	Hydrocodone [Mass/mass] in Meconium by Confirmatory method
74644-6	Hydrocodone [Presence] in Saliva (oral fluid) by Confirmatory method
19483-7	Hydrocodone [Presence] in Urine by Confirmatory method
79261-4	Hydrocodone cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
19485-2	Hydrocodone cutoff [Mass/volume] in Urine for Confirmatory method
19486-0	Hydromorphone [Presence] in Urine by Screen method
19487-8	Hydromorphone cutoff [Mass/volume] in Urine for Screen method
46260-6	Hydromorphone Free [Presence] in Serum or Plasma by Screen method
89309-9	Hydromorphone-3-glucuronide [Presence] in Urine by Screen method
72733-9	Hydromorphone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
86230-0	Hydromorphone [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
16998-7	Hydromorphone [Mass/volume] in Urine by Confirmatory method
68541-2	Hydromorphone [Mass/mass] in Meconium by Confirmatory method
74645-3	Hydromorphone [Presence] in Saliva (oral fluid) by Confirmatory method
18473-9	Hydromorphone [Presence] in Urine by Confirmatory method
77770-6	Hydromorphone cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method

LOINC Code	Description
19488-6	Hydromorphone cutoff [Mass/volume] in Urine for Confirmatory method
46971-8	Hydromorphone Free [Mass/volume] in Urine by Confirmatory method
19516-4	Levorphanol [Presence] in Urine by Screen method
19518-0	Levorphanol cutoff [Mass/volume] in Urine for Screen method
20540-1	Levorphanol [Mass/volume] in Urine by Confirmatory method
16213-1	Levorphanol [Presence] in Urine by Confirmatory method
19519-8	Levorphanol cutoff [Mass/volume] in Urine for Confirmatory method
51984-3	Meperidine+Normeperidine [Presence] in Serum or Plasma by Screen method
58385-6	Meperidine+Normeperidine [Presence] in Urine by Screen method
35617-0	Meperidine [Mass/volume] in Serum or Plasma by Screen method
74108-2	Meperidine [Presence] in Saliva (oral fluid) by Screen method
87497-4	Meperidine [Presence] in Serum, Plasma or Blood by Screen method
19532-1	Meperidine [Presence] in Urine by Screen method
19534-7	Meperidine cutoff [Mass/volume] in Urine for Screen method
72384-1	Meperidine+Normeperidine [Presence] in Urine by Confirmatory method
72749-5	Meperidine [Mass/volume] in Saliva (oral fluid) by Confirmatory method
16253-7	Meperidine [Mass/volume] in Urine by Confirmatory method
16207-3	Meperidine [Presence] in Urine by Confirmatory method
19535-4	Meperidine cutoff [Mass/volume] in Urine for Confirmatory method
91039-8	Methadone+Metabolite [Presence] in Body fluid by Screen method
91046-3	Methadone+Metabolite [Presence] in Hair by Screen method
91030-7	Methadone+Metabolite [Presence] in Meconium by Screen method
91033-1	Methadone+Metabolite [Presence] in Serum, Plasma or Blood by Screen method
91050-5	Methadone+Metabolite [Presence] in Tissue by Screen method
42251-9	Methadone+Metabolite [Presence] in Urine by Screen method
70148-2	Methadone [Presence] in Urine by Screen method >150 ng/mL
70149-0	Methadone [Presence] in Urine by Screen method >300 ng/mL
72734-7	Methadone [Mass/volume] in Saliva (oral fluid) by Screen method
35618-8	Methadone [Mass/volume] in Serum or Plasma by Screen method
70147-4	Methadone [Mass/volume] in Urine by Screen method
72400-5	Methadone [Presence] in Blood by Screen method
72626-5	Methadone [Presence] in Saliva (oral fluid) by Screen method

LOINC Code	Description
59705-4	Methadone [Presence] in Serum or Plasma by Screen method
19550-3	Methadone [Presence] in Urine by Screen method
19552-9	Methadone cutoff [Mass/volume] in Urine for Screen method
73661-1	Methadone panel - Saliva (oral fluid) by Screen method
72475-7	Methadone+Metabolite [Presence] in Saliva (oral fluid) by Confirmatory method
45022-1	Methadone+Metabolite [Presence] in Serum or Plasma by Confirmatory method
72388-2	Methadone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
16246-1	Methadone [Mass/volume] in Urine by Confirmatory method
48956-7	Methadone [Mass/volume] in Unspecified specimen by Confirmatory method
72387-4	Methadone [Presence] in Saliva (oral fluid) by Confirmatory method
47411-4	Methadone [Presence] in Serum or Plasma by Confirmatory method
16199-2	Methadone [Presence] in Urine by Confirmatory method
79249-9	Methadone cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
19553-7	Methadone cutoff [Mass/volume] in Urine for Confirmatory method
72476-5	Methadone panel - Saliva (oral fluid) by Confirmatory method
19599-0	Morphine cutoff [Mass/volume] in Urine for Screen method
46259-8	Morphine Free [Presence] in Serum or Plasma by Screen method
19601-4	Morphine Free [Presence] in Urine by Screen method
19603-0	Morphine Free cutoff [Mass/volume] in Urine for Screen method
89308-1	Morphine-6-Glucuronide [Presence] in Urine by Screen method
72752-9	Morphine [Mass/volume] in Saliva (oral fluid) by Confirmatory method
16251-1	Morphine [Mass/volume] in Urine by Confirmatory method
69027-1	Morphine [Mass/mass] in Meconium by Confirmatory method
74654-5	Morphine [Presence] in Saliva (oral fluid) by Confirmatory method
17290-8	Morphine [Presence] in Serum or Plasma by Confirmatory method
16196-8	Morphine [Presence] in Urine by Confirmatory method
13648-1	Morphine [Presence] in Urine by SAMHSA confirm method
70210-0	Morphine [Moles/volume] in Urine by Confirmatory method
77773-0	Morphine cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
19600-6	Morphine cutoff [Mass/volume] in Urine for Confirmatory method
20550-0	Morphine Free [Mass/volume] in Urine by Confirmatory method
19602-2	Morphine Free [Presence] in Urine by Confirmatory method

LOINC Code	Description
19604-8	Morphine Free cutoff [Mass/volume] in Urine for Confirmatory method
91039-8	Methadone+Metabolite [Presence] in Body fluid by Screen method
91046-3	Methadone+Metabolite [Presence] in Hair by Screen method
91030-7	Methadone+Metabolite [Presence] in Meconium by Screen method
91033-1	Methadone+Metabolite [Presence] in Serum, Plasma or Blood by Screen method
91050-5	Methadone+Metabolite [Presence] in Tissue by Screen method
42251-9	Methadone+Metabolite [Presence] in Urine by Screen method
70148-2	Methadone [Presence] in Urine by Screen method >150 ng/mL
70149-0	Methadone [Presence] in Urine by Screen method >300 ng/mL
72734-7	Methadone [Mass/volume] in Saliva (oral fluid) by Screen method
35618-8	Methadone [Mass/volume] in Serum or Plasma by Screen method
70147-4	Methadone [Mass/volume] in Urine by Screen method
72400-5	Methadone [Presence] in Blood by Screen method
72626-5	Methadone [Presence] in Saliva (oral fluid) by Screen method
59705-4	Methadone [Presence] in Serum or Plasma by Screen method
19550-3	Methadone [Presence] in Urine by Screen method
19552-9	Methadone cutoff [Mass/volume] in Urine for Screen method
73661-1	Methadone panel - Saliva (oral fluid) by Screen method
72475-7	Methadone+Metabolite [Presence] in Saliva (oral fluid) by Confirmatory method
45022-1	Methadone+Metabolite [Presence] in Serum or Plasma by Confirmatory method
72388-2	Methadone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
16246-1	Methadone [Mass/volume] in Urine by Confirmatory method
48956-7	Methadone [Mass/volume] in Unspecified specimen by Confirmatory method
72387-4	Methadone [Presence] in Saliva (oral fluid) by Confirmatory method
47411-4	Methadone [Presence] in Serum or Plasma by Confirmatory method
16199-2	Methadone [Presence] in Urine by Confirmatory method
79249-9	Methadone cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
19553-7	Methadone cutoff [Mass/volume] in Urine for Confirmatory method
72476-5	Methadone panel - Saliva (oral fluid) by Confirmatory method
72730-5	Mitragynine/Creatinine [Mass Ratio] in Urine
75649-4	Mitragynine+7-Hydroxymitragynine [Presence] in Urine by Confirmatory method
72732-1	Mitragynine [Mass/volume] in Urine by Confirmatory method

LOINC Code	Description
73995-3	Mitragynine [Presence] in Urine by Confirmatory method
19597-4	Morphine [Presence] in Urine by Screen method
31088-8	Narcotics and opioids [Identifier] in Bile fluid
29376-1	Narcotics and opioids [Identifier] in Blood
29377-9	Narcotics and opioids [Identifier] in Gastric fluid
12554-2	Narcotics and opioids [Identifier] in Urine
21431-2	Opiates [Presence] in Urine by Screen method >2000 ng/mL
70151-6	Opiates [Presence] in Urine by Screen method >300 ng/mL
74167-8	Opiates [Mass/volume] in Saliva (oral fluid) by Screen method
70150-8	Opiates [Mass/volume] in Urine by Screen method
26744-3	Opiates [Mass/mass] in Meconium by Screen method
51691-4	Opiates [Presence] in Blood by Screen method
91043-0	Opiates [Presence] in Body fluid by Screen method
8212-3	Opiates [Presence] in Gastric fluid by Screen method
40805-4	Opiates [Presence] in Hair by Screen method
8216-4	Opiates [Presence] in Meconium by Screen method
40806-2	Opiates [Presence] in Saliva (oral fluid) by Screen method
8219-8	Opiates [Presence] in Serum or Plasma by Screen method
91052-1	Opiates [Presence] in Tissue by Screen method
8226-3	Opiates [Presence] in Unknown substance by Screen method
8222-2	Opiates [Presence] in Urine by SAMHSA screen method
19295-5	Opiates [Presence] in Urine by Screen method
19299-7	Opiates cutoff [Mass/volume] in Urine for Screen method
19297-1	Opiates tested for in Urine by Screen method Narrative
19296-3	Opiates tested for in Urine by Screen method Nominal
17384-9	Opiates [Mass/volume] in Urine by Confirmatory method
8211-5	Opiates [Presence] in Gastric fluid by Confirmatory method
8215-6	Opiates [Presence] in Meconium by Confirmatory method
74656-0	Opiates [Presence] in Saliva (oral fluid) by Confirmatory method
8218-0	Opiates [Presence] in Serum or Plasma by Confirmatory method
8225-5	Opiates [Presence] in Unknown substance by Confirmatory method
18390-5	Opiates [Presence] in Urine by Confirmatory method

LOINC Code	Description
8221-4	Opiates [Presence] in Urine by SAMHSA confirm method
19300-3	Opiates cutoff [Mass/volume] in Urine for Confirmatory method
50620-4	Opiates cutoff [Mass/mass] in Meconium for Confirmatory method
69026-3	Opiates panel - Meconium by Confirmatory method
19298-9	Opiates positive [Identifier] in Urine by Confirmatory method
19642-8	Oxycodone [Presence] in Urine by Screen method
19644-4	Oxycodone cutoff [Mass/volume] in Urine for Screen method
19646-9	Oxymorphone [Presence] in Urine by Screen method
19649-3	Oxymorphone cutoff [Mass/volume] in Urine for Screen method
46256-4	Oxycodone Free [Presence] in Serum or Plasma by Screen method
46258-0	Oxymorphone Free [Presence] in Serum or Plasma by Screen method
50021-5	Oxycodone [Mass/volume] in Serum, Plasma or Blood by Screen method
58430-0	Oxycodone+Oxymorphone [Presence] in Urine by Screen method
60276-3	Oxycodone+Oxymorphone cutoff [Mass/volume] in Urine for Screen method
60276-3	Oxycodone+Oxymorphone cutoff [Mass/volume] in Urine for Screen method
69356-4	Oxycodone [Presence] in Saliva (oral fluid) by Screen method
71430-3	Oxycodone+Oxymorphone [Presence] in Saliva (oral fluid) by Screen method
72402-1	Oxycodone [Presence] in Blood by Screen method
72751-1	Oxycodone [Mass/volume] in Saliva (oral fluid) by Screen method
73996-1	Oxycodone [Presence] in Meconium by Screen method
77732-6	Oxycodone+Oxymorphone [Presence] in Serum, Plasma or Blood by Screen method
89301-6	Oxymorphone-3-glucuronide [Presence] in Urine by Screen method
91032-3	Oxycodone+Oxymorphone [Presence] in Meconium by Screen method
91044-8	Oxycodone+Oxymorphone [Presence] in Body fluid by Screen method
91053-9	Oxycodone+Oxymorphone [Presence] in Tissue by Screen method
16249-5	Oxycodone [Mass/volume] in Urine by Confirmatory method
17395-5	Oxymorphone [Mass/volume] in Urine by Confirmatory method
18325-1	Oxymorphone [Presence] in Urine by Confirmatory method
19643-6	Oxycodone [Presence] in Urine by Confirmatory method
19645-1	Oxycodone cutoff [Mass/volume] in Urine for Confirmatory method
19650-1	Oxymorphone cutoff [Mass/volume] in Urine for Confirmatory method
46973-4	Oxycodone Free [Mass/volume] in Urine by Confirmatory method

LOINC Code	Description
46974-2	Oxymorphone Free [Mass/volume] in Serum or Plasma by Confirmatory method
46975-9	Oxymorphone Free [Mass/volume] in Urine by Confirmatory method
61197-0	Oxycodone+Oxymorphone [Presence] in Urine by Confirmatory method
68543-8	Oxycodone [Mass/mass] in Meconium by Confirmatory method
69028-9	Oxymorphone [Mass/mass] in Meconium by Confirmatory method
70215-9	Oxycodone [Moles/volume] in Urine by Confirmatory method
72750-3	Oxycodone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
72766-9	Oxymorphone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
74657-8	Oxycodone [Presence] in Saliva (oral fluid) by Confirmatory method
74658-6	Oxycodone+Oxymorphone [Presence] in Saliva (oral fluid) by Confirmatory method
74658-6	Oxycodone+Oxymorphone [Presence] in Saliva (oral fluid) by Confirmatory method
74659-4	Oxymorphone [Presence] in Saliva (oral fluid) by Confirmatory method
77729-2	Oxymorphone [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
77730-0	Oxycodone [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
77731-8	Oxycodone+Oxymorphone [Interpretation] in Serum, Plasma or Blood Qualitative by Confirmatory method
77780-5	Oxymorphone cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
79255-6	Oxycodone cutoff [Mass/volume] in Saliva (oral fluid) for Confirmatory method
72740-4	traMADol [Mass/volume] in Saliva (oral fluid) by Confirmatory method
20561-7	traMADol [Mass/volume] in Urine by Confirmatory method
93720-1	traMADol [Mass/mass] in Meconium by Confirmatory method
79147-5	traMADol [Presence] in Blood by Confirmatory method
17718-8	traMADol [Presence] in Urine by Confirmatory method
19713-7	traMADol cutoff [Mass/volume] in Urine for Confirmatory method
72747-9	N-nortramadol [Mass/volume] in Saliva (oral fluid) by Confirmatory method
92904-2	N-nortramadol [Mass/volume] in Urine by Confirmatory method
93722-7	N-nortramadol [Mass/mass] in Meconium by Confirmatory method
87760-5	N-nortramadol/Creatinine [Mass Ratio] in Urine by Confirmatory method
72741-2	Nortramadol [Mass/volume] in Saliva (oral fluid) by Confirmatory method
18340-0	Nortramadol [Mass/volume] in Serum or Plasma by Confirmatory method
18339-2	Nortramadol [Presence] in Serum or Plasma by Confirmatory method
90750-1	O-nortramadol [Mass/volume] in Saliva (oral fluid) by Confirmatory method

LOINC Code	Description
82974-7	O-nortramadol [Mass/volume] in Serum, Plasma or Blood by Confirmatory method
92639-4	O-nortramadol [Mass/volume] in Urine by Confirmatory method
93721-9	O-nortramadol [Mass/mass] in Meconium by Confirmatory method
79148-3	traMADol [Presence] in Blood by Screen method
93719-3	traMADol [Presence] in Meconium by Screen method
74110-8	traMADol [Presence] in Saliva (oral fluid) by Screen method
19710-3	traMADol [Presence] in Urine by Screen method
19712-9	traMADol cutoff [Mass/volume] in Urine for Screen method

Appendix VI: Opioid-Involved Search Terms

Search Term
Astramorph
De-Chlor G
De-Chlor Nx
Duragesic
Florinal With Codiene
Flowtuss
Hycofenix
Hydro Gp
Hydro-Pc li
Hy-Kxp
Hysingla
Kgs Hc
6-MAM
Abstral
Lortuss Ex
Maxifed G-Cd
M-End Pe
Mytussin Ac
Nalocet
Acetylfentanyl
Acetylfentanyl
Acetylmorphine
Prolex Dh
P-V-Tussin
Relcof C
Actiq
Rms

Search Term
Adanon
Status Green
Allay
Troxyca
Vantrela Ventuss
Amadol
Amidone
Amtussin
Zodryl Ac
Zodryl Dec
Zotex C
Anexsia
OXycontin
Apomorphine
Avinza
Abstral
Accetylmorphine
Azdone
Acetomorphine
Acetyfentanyl
Acetyl And Fen
Acetylefentanyl
Acetylfental
Acetylfentanly
Bancap
Acetylfentnyl
Acetylfetanyl
Acetylfentanyl N Phenethyl Piperidyl Ace
Buprenorphine
Acryifentanyl

Search Term
Acrylfentanyl
Butorphanol
Butrans
Alfenta
Alfentanil
Butyrfentanyl
Carfentanil
Cliradon
Codamine
Andhydrocone
Andmorphine
Codeine
Aniline N Phenethylpiperidine
Anilino N Phenethylpiperidine
Anilino N Phenethylpipendine
Anilino N Phenethylpiperdine
Anilino N Phenethylpiperidine
Anilino Phenethylpiperidine
Anilio N Phenethylpiperidine
Anilo N Phenethylpiperidine
Animalgesics
Anpp
Codotuss
Arymo
Ascomp
Avanzia
Codoxo
Avinza
Axycodone
Combunox

Search Term
Condasin
Barenorphine
Belbuca
Bentanyl
Beprenorphine
Biotussin
Biprenorphine
Boprenorphine
Boxycodone
Bprenorphine
Bromplex Hd
Brontex
Brovex Cb
B-Tuss
Bunaveil
Buoenorphine
Buorenorphine
Bupenorphine
Bupernorphine
Buphenorphine
Buphenorphine
Buphrenorphine
Buphrenorphine
Bupranorphine
Buprenomorphine
Buprenoorphine
Buprenopheine
Buprenophine
Buprenophone
Buprenophrine

Search Term	
Buprenorhine	
Buprenorphine	
Buprenorphene	
Buprenorphin	
Conzip	
Buprenorphinem	
Buprenorphione	
Buprenorphne	
Buprenorphone	
Buprenorphrine	
Buprenorpine	
Buprenorpnine	
Buprenorpohine	
Buprenosphine	
Buprentrphie	
Buprenx	
Bupreonorphine	
Bupreorphine	
Buprenorphine	
Buproenorphine	
Bupronephrine	
Bupronorphine	
Buprorenorphine	
Buptenorphine	
Burenorphine	
Burpenorphine	
Burprennorphine	
Burprenorphine	
Coughtuss	
Butorphinal	

Search Term
Butran
Cymidon
Darvocet
Butyrylfentanul
Butyrylfentanyl
Bupreorphine
Bupremorphine
Bupren
Buprendorphine
Buprendrphine
Buprenex
Buprenez
Buprenmorphine
Buprennophine
Buprennorphine
Buuprenorphine
Capital And Codeine
Carentanil
Carentanyl
Carfentail
Carfentani
Darvon
Carfentanili
Carfentaniltoxicity
Carfentantail
Carfentanyl
Carfentenil
Carfentil
Carfentinal
Carfentinil

Search Term
Carrentanil
Cartentanil
Carvocet
Cassipa
Cd
Ceboxin
Cheracol With Codeine
Cheratussin
Cheratussin Dac
Chydromorphone
Ciboxin
Dazidox
Cocdeine
Codaien
Demerol
Codar Ar
Codar D
Codar Gf
Codein
Desmethyltramadol
Codeinepromethazine
Codeinone
Codeline
Codene
Codenine
Codetine
Codien
Codiene
Codine
Codone

Search Term
Despropionylfentanyl
Detuss
Coedine
Detussin
Dextromoramide
Dextropropoxyphene
Diacetylmorphine
Coxycodone
Coycodone
Cxycodone
Diamorphine
Darvacet
Dihydrocodeine
Dihydromorphinone
Dilaudid
Deceasedaccidentlyingestedtoxicamountsofdrugsmethadone
De-Chlor Hc
De-Chlor Mr
Dehydrocodeine
Delaudid
Dementiamorphine
Demeral
Dimorlin
Demerol
Demethyltramadol
Demoral
Depropionfentanyl
Depropionylfentanyl
Desmethylpropoxyph
Diskets

Search Term
Desmethyltramamol
Despropionylfentanyl
Dolacet
Despropionylfentanyl
Dolagesic
Dolene
Dextro Levo Methopran
Dextro Levo Methorophan
Dextro Levo Methrorphan
Dextro Levo Metrorphan
Dextrol Levomethorphone
Dextrolevomethorphan
Dolophine
Dextroplavometharphan
Dope
Diacetyl Morphine
Duocet
Diacetylmpphine
Dialandid
Dialudid
Duradyne
Diamorphine
Diaudid
Dichloro N Dimethylamino Cyclohexyl N Methylbenzamide
Dichloro N Dimithylamino Cyclohexy N Methylbenzamide
Didaudid
Dihydrocodeine
Dihidrocodeine
Dihydrocodeine
Dihydracodiene

Search Term
Dihydrocdeine
Dihydrocdenine
Dihydrocodceine
Dihydrocoddeine
Dihydrocodeen
Dihydrocodei
Dihydrocodein
Duragesic
Dihydrocodeinehydrocodol
Dihydrocodeinone
Dihydrocodeline
Dihydrocodetnone
Dihydrocodiene
Dihydrocodienone
Dihydrocodine
Dihydrocodoeine
Dihydrocodone
Eddp
Dihyrocodeine
Diladid
Dilandid
Dilaudad
Dilauded
Endocet
Dilaudid
Dilaudid Cough
Dilautid
Endocodone
Dimorphine
Endodan

Search Term
Diskets
Diskits
Dlhydrocodeine
Doedine
Entuss
Exalgo
Excof
Dolophin
Execlear
Dolophine
Execof
Dramadol
Drugdextrorphanlevorphanol
Drugheroin
Drughydrocodone
Drughydromorphone
Drugmorphine
Drugtramadol
Duefenanyl
Duladid
Fentanyl
Fentora
Fluorisobutyrylfentanyl
Durahesic
Duramorph
Duranylfentanyl
Durgesic
Durogesic
Dydrocodone
Dyhydrocodeine

Search Term
Ed Dp
Fluorobutylfentanyl
Embeda
Fortral
Endocet
Furanylfentanyl
Hdrocodone
Endone
Heroin
Ethylidene Dimethyl Di
Ethylidene Dimethyl Diphenylpyrrolidine
Ethylidene Dimethyl Diphenylpyraolidine
Euprenophine
Evzio
Hexatussin
Hycet
Hycoclear
Hycodan
Exicodone
Exycodone
Exycodonean
Exylodone
F Bf
F Entanyl
Fantanil
Fantanyl
Febtanyl
Fedntanyl
Fenanyl
Fenatanyl

Search Term
Fenatnyl
Fenenayl
Fenenyl
Fenhanyl
Fennatyl
Fenpanyl
Fenranyl
Fenrtanyl
Fent
Fentaanyl
Fentabyl
Fentahyl
Fentaly
Fentalyl
Fentalyn
Fentamyl
Fentanal
Fentanayl
Fentanie
Fentanil
Fentanl
Fentanly
Fentanol
Fentanoly
Fentanoyl
Fentantl
Fentantyl
Fentanul
Fentany
Fentanyal

Search Term
Hycomed
Fentanylamended
Fentanylanalogue
Fentanyland
Fentanylc
Fentanyle
Fentanylintoxication
Fentanyltoxicity
Fentanylt
Fentariyl
Fentary
Fentaryl
Fentatnyl
Fentayl
Fentaylic
Fentaynl
Fentenyl
Fentingl
Fentinyl
Fentnanyl
Fentnayl
Fentnyl
Fentonal
Fentonol
Fentonyl
Hycomine
Fentora
Fentyal
Fentyl
Fentynal

Search Term
Fentynol
Fenyanyl
Fenyl
Fertany
Fetaanyl
Fetanyl
Fetnyl
Feutanyl
Fibf
Floricet With Codiene
Fluorisobutyrylfentanyl
Hycophen
Hydrocet
Fluorobutyrfentanyl
Fluorofentanyl
Fluoroisobutyrylfentanyl
Fluoroisobutyrfentanyl
Fluoroisobutyrylfentanyl
Flurisobutyrylfentanyl
Flurodentanyl
Flurofentanyl
Fluroisobutyrylfentanyl
Flurorofentanyl
Fntanyl
Fontanyl
Hydrocodone
Framadol
Frntanyl
Furanulfentanyl
Furanyfentanyl

Search Term
Furanyifentanyl
Furanylfentanyl
Furanylfentantl
Hydrofed
Furanylfentanylm
Furanyltentanyal
Furanyltentanyl
Furaylfentanyl
Furaylfentanyl
Furfanylfentanyl
Fusepaq Synapryn
Gevilan
Guiatuss Ac
Gydrocodone
Hdrocodone
Hydrogesic
Heriion
Herin
Herioin
Herion
Herione
Heroid
Heroin
Heroinj
Heroin
Heroinamended
Heroinand
Heroine

Search Term
Heroingabapentin
Heroinopiate
Heroinself
Herointoxicity
Heroion
Heron
Heronie
Herrion
Herroin
Hydromide
Hheroin
Highromorphone
Hiomethedone
Hodrocodone
Hudrocodone
Hudromorphone
Hy Drocodone
Hy Phen
Hybrocome
Hybroxycodone
Hydromorphinol
Hycet
Hydromorphone
Hydropane
Hydrotropine
Hydrotuss
Hypamine
Hycrocodone
Hycromorphone
Hydarcod Ne

Search Term
Hyddromorphone
Hydfocodone
Hydiocodol
Hydocodone
Hydomorphone
Hydorcodone
Hydormorphone
Hydr Codone
Hydra Morphine
Hydracodone
Hydramorphone
Hydrcodone
Hydrcpdone
Hydrmorphone
Hydro Codone
Hydro Morphine
Hydro Morphone
Hydrocadone
Hydrocaodone
Hydrocdone
Hydrocedone
Hypercodone
Hydroco Done
Hydrococdone
Hydrococne
Hydrococone
Hydrocod
Hydrocodal
Hydrocode
Hydrocodeine

Search Term
Hydrocoden
Hydrocodene
Hydrocodeone
Hydrocodiene
Hydrocodine
Hydrocodne
Hydrocodo
Hydrocodoen
Hydrocodoine
Hydrocodol
Hydrocodole
Hydrocodon
Hydrocodonc
Hyphed
Hydrocodoneamended
Hydrocodoneand
Hydrocodonedetect
Hydrocodonedihydrocodeine
Hydrocodonefree
Hydrocodoneother
Hydrocodonoe
Hydrocodonr
Hydrocoldol
Hydroconde
Hydrocondone
Hydrocone
Hydrocordone
Hydrodocodone
Hydrodocone
Hydrododone

Search Term
Hydrodone
Hytan
Hytussin
Hydrogodone
Hydromarphone
Hydromerphone
Ibudone
Hydromet
Jetrium
Hydrommorphone
Hydromophine
Hydromophone
Hydromoprhone
Hydromor
Hydromorphine
Hydromorhone
Hydromorphpine
Hydromorph
Hydromorphane
Hydromorphene
Hydromorphine
Kadian
Hydromorpho
Hydromorphon
Ketobemidone
Hydromorpine
Hydromorpone
Hydromothore
Hydromprohone
Hydromprphone

Search Term
Hydromrophone
Hydron Cp
Hydron Ex
Hydron Kgs
Hydroomorphone
Ketogan
Hydrophone
Hydropmorphone
Ketorax
Kratom
Hydrovdone
Hydroxocone
Hydroxycodone
Hydroxymorphone
Hyfrocodone
Hynocodone
Hydocodol
Hydrocode
Hydrocodone
Kwelcof
Hypdrocodene
Hypdrocodone
Lazanda
Levo Dromoran
Hyprocodone
Hypromorphone
Hyrdocodone
Hyrdomorphone
Hydrocodine
Hydrocodoe

Search Term
Hydrocodone
Hydromorphone
Hyrocodone
Hyrododone
Hyrodone
Hyromorphone
Levomethadyl
Levomethorphan
Levorphanol
Ibuprenorphine
Infumorph
Intoxicationfentanyl
Intoxicationheroin
Intoxicationhydrocodone
Intoxicationmorphine
Intoxicationoxycodone
Intoxicationtramadol
lonsys
lorphine
loxicodone
Liquicet
Lorcet
Kadian
Lortab
Ketodur
Margesic H
Ketogen
Maxidone
Medcodin
Kraton

Search Term
Kudian
Meperidine
Kydrocodone
Leroïn
Methadone
Levodromoran
Levo-Dromoran
Levomethadil
Methadose
Levomethorpan
Methopholine
Levophanol
Levorphan
Levorphanal
Methorphan
Levorphenal
Levorphenol
Levorphinal
Levorphinol
Methylfentanyl
Lor Tab
Loratab
Metopon
Loricet
Loritab
Lortan
Lydrocodone
Magnacet
Mar-Cof Bp
Mar-Cof Cg

Search Term
Mitragynine
Margesich
Mathadone
Monoacetylmorphine
Maxifed Cd
Maxiphen Cdx
Mc Contin
M-Clear Wc
Meathadone
Morphine
Medperidine
Mehadone
Mehtadone
Mehtdone
M-End Max D
Meperdine
Meperedine
Morphine Diacetate
Meperitab
Merperidine
Merthadone
Metadona
Metadone
Metahadone
Metahdone
Metehadone
Metha Done
Methaadone
Methadaone
Methadine

Search Term
Nalorphine
Methorphinan
Methorpinan
Methrophan
Methyfentanyl
Naloxone
Naltrexone
Metorphan
Metragynin
Mglmorphine
Mgltramadol
Mirtagynine
Mirtragynine
Mitigo
Mitragyne
Mitragyna
Mitragynal
Narcan
Mitragynne
Mixedhydrocodone
Mmethadone
Mnorphine
Moephine
Monacetylmorphine
Monacteylmorphine
Monoacelylmorphine
Monoacelytmorphine
Monoacetlymorphine
Monoacetyl
Monoacetylmo

Search Term
Narceine
Monoacetylmorphoie
Monoacetylmorphone
Monoacetylmorphine
Monoacetylmorphine
Monoacteylmorphine
Monoactylmorphine
Monoactymorphine
Monocaetylmorphine
Monocetylmorphine
Mophine
Moprhine
Moraphine
Morephin
Morhine
Morhpine
Morhpne Sulfate
Morohine
Morphine
Morphabond
Morphabond Er
Morpheen
Morpheme
Morphene
Morphhine
Morphi
Morphia
Morphiine
Morphin
Narcof

Search Term
Narcotic
Morphineand
Morphinediacetate
Morphinedrug
Morphinem
Morphinetethanol
Morphinetoxicity
Morphinone
Morphione
Morphne
Morphoine
Morphon
Search Term
Morphone
Morphrine
Morpine
Morrphine
Mortphine
Narcotics
Mrophine
Mrphine
Narvox
Ms Contin
Ms Cotin
Ms Coutin
Mscontin
Mt Cyclohexy Diphenylethyl Piperazine
Mt Cyclohexyl Diphenylethyl Piperazine
Mthadone
Mxymorphone

Search Term
Mydrocodone
N Phenethy Piper Idyl Acetanilide
N Phenethy Piperidy Acetanilide
N Phenethyl Piper Idyl Acetanilide
N Phenethyl Piperdyl Acetanilide
N Phenethyl Piperidine
N Phenyl Phenylethyl Piperidin Amine
Nalbuphin
Nasatuss
Nalex Ac
Nicomorphine
Norbuprenorphine
Norcet
Norco
Norfentanyl
Norhydrocodone
Normeperidine
Noroxycodone
Nariz Hc
Norpropoxyphene
Nortapentadol
Nazarin Hc
Nerion
Nethadone
Neubain
Nicomorpheen
Nicomorphene
Notuss
Ninjacof Xg
Nmethadone

Search Term
Noafentanyl
Nonbupronorphine
Nopropoxyphene
Norboprenorphine
Norbupenorphine
Norbuphrenorphrine
Norbuprennorphine
Norbuprenopine
Norbuprenorphin E
Novasus
Norbuprenorphire
Norbuprenorphone
Norbuprenorpine
Norbuprenorpohine
Norburenorphine
Norburpenorphine
Norburprenorphine
Nubain
Norcodeine
Norentanyl
Norfentanly
Nucynta
Norfetanyl
Norhydrocodeine
Oncet
Onsolis
Normorperdine
Noroxycod
Noroxycodene
Noroxycodo

Search Term
Opana
Norphentanyl
Norpropoxyphene
Norpropoxhine
Norpropoxphene
Norpropoxyp
Norpropoxypene
Opiate
Norpropoxyphene
Norprooxyphene
Nortamadol
Opiates
Nortramado
Nortramadol
Nortramadol
Notramadol
Opioid
Opium
Nropropoxyphene
Orlaam
Nubane
Nucinta
Nucofed
Oxanest
Numorphan
Nuphemorphine
Nydrocodone
O Desmethltramadol
O Desmethyltramaadol
O Desmethyltramadol

Search Term
O Desmethytramad
Obredon
Oxycodone
Oxycontin
Oxycodone
Ofheroin
Ofmorphine
Ofnortramadol
Oftramadol
Oipate
Oxycodone
Oxecta
Oxinorm
Onycontin
Oxycet
Opana
Opana Er
Oplate
Opeoid
Opi Id
Opiate
Opiad
Opiac
Oxycodone
Opiated
Oxycontin
Opiate

Search Term
Opid
Opieat
Opieate
Opiiod
Opinte
Opiod
Opiode
Oxyfast
Opioide
Opiold
Opionid
Opiote
Opitae
Opitate
Opite
Opitte
Oxygesic
Opizter
Oplate
Oplated
Oplod
Oploid
Oplote
Opoid
Opoiod
Optiate
Oramorph Sr
Oxyir
Orphine
Orycodone

Search Term
Orymorphial
Orymorphone
Overdoseopiate
Overdoseoxycodone
Oxymorphone
Oxaydo
Oxcodone
Oxcoycodone
Oxycodene
Oxycodone
Oxdycodone
Oxynorm
Oxhycodone
Oxicodo
Oxicodone
Oxicontin
Oxidone
Oximorphone
Palfium
Oxmorephone
Oxmorphone
Oxmymorphone
Oxocodone
Oxomorphone
Oxtcodone
Oxumorphone
Oxxycodone
Oxy Codone
Oxy Contin
Oxy Morphine

Search Term
Oxycdone
Oxycedone
Palphium
Oxycicodine
Oxycmorphone
Oxyco
Oxycoatin
Oxycocdine
Search Term
Oxycocet
Oxycococodone
Oxycocodone
Oxycocon
Oxycocone
Oxycode
Oxycodeine
Oxycoden
Oxycodene
Oxycodiene
Oxycodine
Oxycodione
Oxycodne
Oxycodo
Oxycododone
Oxycodoe
Oxycodoen
Oxycodoine
Oxycodol
Oxycodome
Oxycodon

Search Term
Oxycodonbe
Panacet
Oxycodoneamended
Oxycodonem
Oxycodonemorphine
Oxycodonetramadol
Oxycodonetrazodone
Oxycodonic
Oxycodonne
Oxycodono
Oxycodore
Oxyconde
Oxycondine
Oxycondone
Oxyconone
Oxycontine
Oxyconting
Oxycontinin
Oxycontion
Oxycortin
Search Term
Oxycotin
Oxycotine
Oxycotten
Oxycotton
Oxydcodone
Oxydocond
Oxydocone
Oxydodone
Oxydone

Search Term
Oxycodone
Paraflourofentanyl
Oxyfast
Pentazocine
Percobarb
Oxymophone
Oxymopphone
Oxymorene
Oxymorephone
Oxymorhone
Oxymorphphone
Oxymorphpine
Oxymorphpone
Oxymorohone
Oxymorphophone
Oxymorph
Oxymorphan
Oxymorphane
Oxymorphine
Oxymorphne
Oxymorphoen
Oxymorphoine
Oxymorphome
Oxymorphon
Percocet
Oxymorphonemoxycodone
Oxymorphoone
Oxymorpine
Oxymorpone
Oxymorphine

Search Term
Oxymporphone
Oxymprphone
Oxymrophone
Oxynmorphone
Percodan
Oxynorphone
Oxyocodone
Oxyodone
Oxyomorphone
Oxyorphone
Oxyrontin
Oxysodone
Oyxodone
Oyxodonw
Oycodone
Oymorphone
Oyxcodone
Oyxmorphone
Oyycodone
Oyycontin
Ozymorphone
Percolone
Perloxx
Physeptone
Papaverine
Para Fluorobutyryl Tentany
Para Fluorobutyrylfentanyl
Para Fluoroisobtyrylfentanyl
Para Fluoroisobutyrlfentanyl
Para Fluoroisobutyryifentanyl

Search Term
Para Flurobutyryl F
Pneumotussin
Parafluoroisobutyrylfentanyl
Parafluoroisobutyrylfentanyl
Parafluoroisobutyrylfentanyl
Paragoric
Pavrin
Pentanyl
Pentazocin
Polygesic
Pepavrine
Polyopiate
Poppy Husk Tea
Percoet
Poppy Seed Extract Brew
Percoset
Poppy Seed Tea
Phenethyl Piperidyl Acetanilide
Phenylhistine Dh
Poppy Tea
Primalev
Poioid
Procet
Procof
Propoxyphene
Protuss
Racemethorphan
Remifentanil
Poppyhusktea
Poppyseedextractbrew

Search Term
Poppyseedtea
Poppytea
Reprexain
Primlev
Primlev
Probuph
Rezira
Roxanol
Prolate
Propoxyphene
Propoxaphene
Propoxephene
Propoxiphen
Propoxophene
Propoxphene
Propoxyhene
Propoxyohene
Propoxypheen
Propoxyphen
Roxicet
Propoxyphine
Propoxyphne
Propoxyphone
Propxphene
Propxyphene
Prosproxyphene
Protoxyphene
Roxicodone
Provex Pbc
Proxyphene

Search Term
Pxymorhone
Qcycodone
Qxymorphone
Roxilox
Racemorphan
Remifenta
Roxiprin
Remifentanyl
Rentanyl
Retasin Hc
Revia
Roxycodone
Rezira
Robafen Ac
Roxanol-T
Roxycontin
Roxicet
Rybix
Roxicodone
Ryzolt
Roxinol
Sosegon
Roxucodone
Roxybond
Speedball
Stadol
Stagesic
Rybix Odt
Subellan
Ryzolt

Search Term
Sentanyl
Simbadol
Simuc-Hd
Sodeine
Sublimaze
Suboxone
Subsys
Subutex
Sufentanil
Subetex
Symtan
Sublocade
Suboxene
Suboxine
Talwin
Tapentadol
Thebaine
Su-Tuss Hd
Tilidine
Talvin
Tramadol
Tapendatol
Tapenetol
Tapentado
Tussafin
Tapental
Tapentendol
Tapentodol
Targiniq
Tarmadol

Search Term
Tddmcodiene
Tentanyl
Tussend
Tilidin
Tussgen
Toherion
Topentadol
Tradadol
Tradol
Tramaadol
Tramadae
Tramadall
Tramadel
Tramadl
Tramadoe
Tussicaps
Tramadoland
Tramadole
Tramadolo
Tramadone
Tramadonl
Tramaol
Tramatal
Tramatol
Tramdol
Tramdola
Tramedol
Tramidol
Tramodal
Tramodol

Search Term
Tramolol
Tranadol
Trans Dichloro N Dimethylamine Cyclohexyl N Methylbenzamide
Trans Dichloro N Dimethylamino Cyclohexyl N Methylbenzamide
Traqmadol
Traumadol
Trazadol
Tremadol
Tremodol
Triacin C
Triant-Hc
Trmadol
Tsramadol
Tussicle
Tussigon
Tussiniate
Tussionex
Tussicaps
Tussplex
Tycolet
Tussigon
Tylox
Ugesic
Tussonex
Ultracet
Tuxarin
Tuzistra
Ultram
Tylenol With Codeine
Valoron

Search Term
Valtran
Vanacet
Vanacon
Ultram
Ultram Er
Ultrams
Ultran
Ultrim
Utram
Valoran
Vicoclear
Vicodin
Vicoprofen
Vicotuss
Vendone
Verdrocet
Vicaden
Vicadin
Vicidin
Vituz
Vicodan
Vicoden
Xartemis
Vicodin
Vicodon
Vicodone
Vicopren
Vicoprfen
Vicoprin
Xodol

Search Term
Xolox
Vilan
Viodin
Visvex
Vivitrol
Zamicet
Xodol
Xtampza
Xtampza Er
Xycodone
Xylon
Yramadol
Yxocodone
Z Tuss Ac
Zohydro
Zamicet
Zodryl Dac
Zolvit
Zohydro
Zutripro
Zubsolv
Zydone

Appendix VII: Overdose Search Terms

Note: Overdose search terms were searched in conjunction with opioid involved search terms.

Search Term
Overdose
Overduse
Poison

Appendix VIII: Naloxone and Naltrexone Codes and Search Terms

Note: Naloxone and Naltrexone codes and mentions are not defined as opioid-involved unless accompanied by an opioid-mention or code.

Naloxone and Naltrexone Medication Codes

Drug Name	RxNORM Concept Unique Identifier (RxCUI)	SNOMED CODES
Naloxone	7242	372890007
Naltrexone	7243	373546002

Naloxone and Naltrexone Laboratory Codes

LOINC Code	Description
42618-9	Naloxone [Presence] in Urine by Screen method
89307-3	Naloxone-3-glucuronide [Presence] in Urine by Screen method
87807-4	Naloxone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
77207-9	Naloxone [Mass/volume] in Urine by Confirmatory method
78864-6	Naloxone cutoff [Mass/volume] in Urine for Confirmatory method
87822-3	Naltrexone [Presence] in Saliva (oral fluid) by Screen method
19609-7	Naltrexone [Presence] in Urine by Screen method
19612-1	Naltrexone cutoff [Mass/volume] in Urine for Screen method
87823-1	Naltrexone [Mass/volume] in Saliva (oral fluid) by Confirmatory method
19610-5	Naltrexone [Mass/volume] in Urine by Confirmatory method
18334-3	Naltrexone [Presence] in Urine by Confirmatory method
19613-9	Naltrexone cutoff [Mass/volume] in Urine for Confirmatory method

Naloxone and Naltrexone Search Terms

Search Term
Naloxine
Naloxoane
Naloxone
Nalozone
Narcan
Natoxone
Neloxone
Naltrexone