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# **BMJ Open**

# Evaluating the association between urine drug screening frequency and retention in opioid agonist treatment in Ontario, Canada

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**Title:** Evaluating the association between urine drug screening frequency and retention in opioid agonist treatment in Ontario, Canada

Running Title: Urine drug screen frequency and OAT retention

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# ABSTRACT

Objective: The objective of this study was to evaluate how urine drug screening frequency is associated with treatment retention in opioid agonist treatment (OAT).

Methods: Data for this retrospective cohort study of 55,921 adults in OAT in Ontario, Canada, were derived from administrative data sources between January 1, 2011, and December 31, 2015. All patient information was linked anonymously across databases using encrypted ten-digit health card numbers. Descriptive statistics were calculated for comparing urine drug screening frequency groups (less than monthly, monthly, bi-weekly and, weekly) using standardized differences (d) where d less than 10% indicated a statistically significant difference. A logistic regression model was then used to calculate odds ratios for the association between urine drug screening frequency and one-year treatment retention adjusting for baseline covariates, including sex, age, location of residence, income quintile, mental disorders, HIV status and deep tissue infections.

Results: Over 70 percent of the cohort had four or more urine drug screens per month (weekly or more UDS). Significant associations were observed between urine drug screening frequency and one-year treatment retention in OAT bi-weekly (adjusted Odds Ratio (aOR) = 3.20, 95% confidence interval (CI) 2.75-3.75); weekly urine drug screening (aOR = 6.86, 95% CI, 5.88-8.00) and; more than weekly (aOR = 8.03, 95% CI, 6.87-9.38) using the monthly or less groups as the reference.

Conclusion: This study identified a significant association between weekly urine drug screening and one-year treatment retention in OAT. Therefore, these findings put into question the recent changes in OAT guidelines recommending urine drug screening only be conducted monthly. More research is needed to strengthen the evidence base for urine drug screening frequency in OAT.

# STRENGTHS AND LIMITATIONS OF THIS STUDY

- There is the possibility of data entry and reporting errors associated with using administrativelevel data.
- The data is collected for physician remuneration and funding therefore, its initial intention is not for research.
- There is potential for unmeasured confounding, including confounding related to other substance use (37, 45, 46), social and interpersonal factors (47-50) and clinical characteristics (51, 52) due to our study only having access to routinely collected data. Finally, in this study, methadone and buprenorphine/naloxone patients were grouped. Research has shown that OAT medication type can impact retention. Therefore further study is needed to compare UDS frequency between methadone and buprenorphine/naloxone patients.
- Some expert opinions have suggested that routine use of urine toxicology testing reinforces a power dynamic and invites shame, stigma and judgment. We were not able to account for such factors in our analysis (53).

# INTRODUCTION

Several studies have documented an unprecedented burden of disease due to opioid use in recent years (1-5). The rate of opioid-related deaths has increased dramatically in the United States and Canada. In Canada, between January and June 2018, there were 2066 opioid-related deaths, with fentanyl or fentanyl analogues detected in 72.0% of cases (6). Similar rates have been reported in the United States, and in 2020, opioid overdose was the leading cause of accidental death (7).

Fortunately, opioid use disorder (OUD) is treatable with Opioid Agonist Treatment (OAT), including methadone and buprenorphine/naloxone. Research has shown that OAT is the most effective treatment to reduce mortality and hospitalization rates, decrease the use of opioids and other substances, lower the transmission of HIV, hepatitis C and other infectious diseases, and improve unemployment rates and other social factors. (2, 8-11). Despite its known benefits, uptake and effective use of OAT by general practitioners is relatively low. Little training is given to medical professionals about the complexity and continuum of care necessary for the successful treatment of individuals with OUD (12). Additionally, treatment discontinuation and cycling are very common (7, 8); and changes in opioid tolerance while on OAT lead to an exceptionally high risk of overdose mortality following discontinuation (2, 13-15). Sustained engagement in OAT, ideally for one year or more (16-18), is thus critical to realizing the protective benefits of this vital tool to address the opioid overdose crisis.

Most patients in Ontario will start treatment in a specialized addiction clinic for observed daily dosing. Urine Drug Screening (UDS) is used to detect drug use and monitor adherence to OAT (19, 20). UDS is part of a contingency management strategy that includes increasing the number of methadone or buprenorphine/naloxone doses that a patient can take home. These take-home privileges are increased based on appointment attendance and consistently negative urine

screens for opioids, cocaine, stimulants, and other substances. In Ontario, patients enrolled in OAT at specialized addiction clinics will achieve six take-home doses after at least eight months of negative UDS, which is equivalent to visiting the clinic once per week for a UDS and assessment.

The cost of UDS billing has been the source of debate in Ontario (17, 18), resulting in recent UDS billing fee cuts (21) and recommendations for less frequent screening (22). Ideal UDS frequency is therefore critical to treat OUD effectively in a specialized OAT setting. However, a recent review conducted by McEachern et al. concluded that there is a critical gap in peer-reviewed evidence regarding UDS frequency and health outcomes for individuals in OAT. Despite this lack of evidence, the OAT guidelines in Ontario have been recently replaced with new national guidelines which recommend drug screening only once per month, even when a much higher frequency of UDS is currently being conducted. Furthermore, federal and provincial guidelines are inconsistent. They often rely on expert opinion and politically driven reasons rather than peerreviewed evidence (23). Therefore, the goal of this study was to evaluate how UDS frequency is 620N/ associated with retention in OAT in Ontario.

#### **METHODS**

#### **Study Design and setting**

Data for this retrospective cohort study of 55,921 adults with OUD in Ontario were derived from three databases that routinely collect publically funded health care services between January 1, 2011, and December 31, 2015. These data were obtained through the Data Analytics Services (DAS) department at ICES. ICES is a not-for-profit research organization that gathers population-based health and social data from Ontario's publicly funded health services to generate knowledge (24). The study data were accessed remotely using a secure server. Patient-

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level information was linked anonymously across databases using encrypted ten-digit health card numbers. The linking protocol is used routinely for health system research in Ontario (25-27). The Laurentian University Research Ethics Board provided ethical approval for this study under project number 6009752. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were used to write this manuscript (28).

The Ontario Drug Benefit Plan database using drug identification numbers and the Ontario Health Insurance Plan (OHIP) database physician billing codes including OAT monthly management codes (K682, K683, and K684), visit/consultation codes (A680 and A957) and, point of care testing codes (G040, G041, G042 or G043) were used to define the primary study cohort. All patients who initiated OAT for the first time within the study time frame in Ontario were included. First-time OAT was defined as no previous history of treatment in the year before the first treatment episode. It is common for OAT patients to cycle between treatment and relapse (29, 30). Studies have demonstrated that multiple treatment attempts are correlated with a higher likelihood of positive outcomes (31-33). We chose only to include first-time OAT patients to eliminate bias related to numerous treatment attempts.

We excluded all patients under 15 years old, patients who were not eligible for OHIP, non-Ontario residents, and those with missing age, gender, and postal codes used for identification and linking across databases. We then combined patients identified from ODB, patients identified from OHIP, and patients identified in both databases to create the primary study cohort. See Figure 1.

## **Patient and Public Involvement**

There was no patient and public involvement involved in the design, conduct, reporting or dissemination of our research.

## **Study variables**

Baseline statistics were used to describe the study population and included age groups (18 to 34, 35 to 64, 65+), sex (male vs female), income quintile (1 - highest, 2, 3, 4, 5), and location of residence, missing n =3 (northern/rural, northern/urban, southern/rural, southern/urban), all extracted from the RPDB database. Comorbidity variables included: HIV status (positive vs negative), Deep tissue infections (yes vs no), mental health conditions (yes vs no).

## **UDS frequency**

UDS billing information, including the following OHIP fee codes: G040, G041, G042, G043, were extracted from the OHIP database. Patients were assigned to one of four groups: Less than once in 30 days, bi-weekly (>1 to <=3 in 30 days), weekly (>3 to <=5 in 30 days) more than weekly (>5 in 30 days). The classification of groups was decided based on the distribution of the means of the UDS in 30 days.

# **One-year treatment retention**

One-year treatment retention is a common measure used in several studies as a positive treatment outcome (16, 18, 34-38). After their first treatment episode, all patients were followed to a maximum follow-up date of December 31, 2016. Continuous OAT (one-year treatment retention) was assessed based on prescription refill data (from the Ontario Drug Benefit database). The thirty-day cut-off was chosen based on this interval has been well-established in this field of research (16, 34, 37). The database used for medication dispensing in this study might not capture doses administered in a hospital or provincial correctional setting. However, in Ontario, patients will typically continue to receive methadone or buprenorphine in these settings. Since most

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hospital admissions or provincial incarcerations are less than 30 days, this approach allows the analysis to be conducted without misinterpreting such events as treatment interruption.

## **Statistical Analysis**

Descriptive statistics were calculated for all UDS groups and used standardized differences (d) where d less than 10% indicated a clinically relevant difference. Standardized differences are not affected by sample size. Therefore, standard differences can be used to compare the balance in measured variables between exposure groups in the study (39).

A logistic regression model was then used to calculate odds ratios for the association between UDS frequency and one-year treatment retention. We adjusted for baseline covariates in the models, including sex, age, location of residence, income quintile, mental disorders, HIV status and deep tissue infections. All data were analyzed using SAS Version 9.4 (40).

#### **RESULTS**

Figure 2 shows that between January 2011 and December 2015, a total of 55,921 individuals were included in the study. Of these, 6,252 (11.20%) had UDS monthly or less, 9,495 (16.98%) had bi-weekly UDS, 24,948 (44.61%) had weekly UDS, and 15,226 (27.23%) had UDS six or more times in 30 days.

There were significant differences between the UDS frequency groups. Notably, we observed that the proportion of younger patients (aged 15 to 34) increased and that the proportion of older patients (55 to 65+) decreased with increased UDS frequency. Similarly, the proportion of northern rural patients increased, and the proportion of southern rural patients decreased with higher UDS frequency. Other demographic characteristics at OAT initiation are shown in Table 1.

<u>**Table 1**</u>: Summary statistics of individuals with OUD by UDS frequency group

*d* = *standardized difference* \*statistically significant

	Urine Drug Test Frequency							
	Monthly or less		<b>Bi-Weekly</b>		Weekly		More than weekly	
	n=6,252 (11.20)	d	n=9,495 (16.98)	d	n=24,948 (44.61)	d	n = 15,226 (27.23)	d
Sex	· · · · · · · · · · · · · · · · · · ·	0.02		0.03	<u>_</u>	0.09		0.12*
Female	2,268 (36.28)		3,217 (33.88)		8,217 (32.94)		5,992 (39.35)	
Male	3,984 (63.72)		6,278 (66.12)		16,731 (67.06)		9,234 (60.65)	
Age		0.64*		0.36*		0.24*		0.40*
15 to 24	720 (11.20) 🧹		1,064 (11.21)		4,716 (18.90)		3,741 (24.57)	
25 to 34	1,358 (21.72)		2,656 (27.97)		9,086 (36.42)		5,906 (38.79)	
35 to 44	1,186 (18.967)		2,249 (23.69)		5,573 (22.34)		3,087 (20.27)	
45 to 54	1,415 (22.63)		2,277 (23.98)		4,161 (16.68)		1,947 (12.79)	
55 to 64	887 (14.19)		1,004 (10.57)		1,289 (5.17)		505 (3.32)	
65+	686 (10.97)		245 (2.58)		123 (0.49)		40 (0.26)	
<b>Geography</b> Northern		0.11*		0.29*		0.22*		0.45*
Rural Northern	366 (5.85)		239 (2.52)		828 (3.32)		1,400 (9.19)	
Urban Southern	445 (7.12)		441 (4.64)		1,753 (7.03)		2,655 (17.44)	
Rural Southern	457 (7.31)		672 (7.08)		2,107 (8.45)		1,462 (9.60)	
Urban	4,984 (79.72)		8,143 (85.76)		20,260 (81.21)		9,709 (63.77)	
Income		0.10		0.11*		0.05		0.15*
l (lowest)	1,999 (31.97)		2,847 (29.98)		8,293 (33.24)		5,953 (39.10)	
2	1,348 (21.56)		2,206 (23.23)		5,644 (22.62)		3,301 (21.68)	
3	1,089 (17.42)		1,777 (18.72)		4,586 (18.38)		2,520 (16.55)	
4	956 (15.29)		1,497 (15.77)		3,755 (15.05)		1,884 (12.37)	
5	860 (13.76)		1,168 (12.30)		2,670 (10.70)		1,568 (10.30)	
Mental Health HIV	5,544 (88.68)	0.06	8,426 (88.74)	0.06	21,472 (86.07)	0.05	13,234 (86.92)	0.01
positive Deen	59 (0.94)	0.03	111 (1.17)	0.06	158 (0.63)	0.02	83 (0.55)	0.03
Tissue Infection	344 (5.50)	0.14*	420 (4.42)	0.09	591 (2.37)	0.07	321 (2.11)	0.08

As shown in Table 2, a logistic regression model was conducted to determine the association between UDS frequency and one-year treatment retention. A total of 250 (4.00%) of patients who were retained for one year had less than one UDS in 30 days, 1,398 (14.72%) had bi-

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weekly UDS, 6,185 (24.79%) had weekly UDS, and 4,153 (27.28%) had more than weekly UDS. UDS frequency was positively associated with one-year treatment retention within our cohort. Compared to patients who had less than monthly UDS, bi-weekly UDS was associated with an increase in one-year treatment retention (adjusted Odds Ratio (aOR) = 3.20, 95% confidence interval (CI) 2.75-3.75); weekly UDS was associated with an increase in one-year treatment retention (aOR = 6.86, 95% CI, 5.88-8.00) and; more than weekly UDS was associated with an increase in one-year treatment retention (aOR = 8.03, 95% CI, 6.87-9.38).

Table 2: Urine	Drug Screeni	ng Frequency and	d One-year Tre	eatment Retention
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		<b>One-year</b>				
UDS Frequency per	Patients	Retention, N	Unadjusted	Unadjusted	Adjusted	Adjusted
Month	(N)	(%)	OR	95% CI	OR	95% CI
Less than monthly*	6,252	250 (4.0)				
Bi-weekly	9,495	1,398 (14.72)	3.18	2.71-3.72	3.20	2.75-3.75
Weekly	24,948	6,185 (24.79)	6.07	5.22-7.05	6.86	5.88-8.00
More than weekly	15,226	4,153 (27.28)	6.90	5.93-8.03	8.03	6.87-9.38
reference group JDS - Urine drug screening DR – Odds Ratio DR - Adjusted Odds Ratio DS% CI – 95% confidence interval						
DISCUSSION						

## DISCUSSION

The study sought to evaluate the relationship between the frequency of UDS tests and oneyear retention in OAT. Drawing on longitudinal data from publically funded health administrative data in Ontario, Canada, it was observed that more frequent UDS tests are associated with a significantly increased likelihood of one-year treatment retention in OAT.

We found a certain degree of heterogeneity in the UDS frequency groups. Specifically, younger patients and those living in northern rural areas had more frequent UDS tests. This

observation is likely reflective of the lack of stability observed in younger patients do to less time in treatment. In Ontario, after a period of stabilization, OAT physicians can allocate take-home doses, leading to less frequent UDS, which is mainly dependent on the patient's progress with treatment (5). Patients in Northern and rural regions of Ontario are subject to several barriers in accessing care, increasing their likelihood of delaying accessing services. For example, northern patients may have difficulty enrolling in treatment due to the well-documented lack of resources, including primary care physicians. They may also have to travel long distances to access health service providers who can provide observed dosing (41-43).

In this study, when evaluating one-year treatment retention as the primary outcome, we accounted for variations in UDS frequency by adjusting for baseline patient characteristics. Compared to monthly UDS, increased frequency of urine screening was associated with a higher likelihood of one-year treatment retention in OAT. Importantly, we observed that the more frequent the UDS, the stronger the association was with one-year treatment retention. Research has shown that one-year treatment is correlated with various positive health outcomes for OAT patients, including reduced rates of drug use, hospitalization, criminal activity, and mortality (16,

34). Therefore, it is often used as a marker for a positive treatment outcome.

In our review of the literature, we found that only one other study has examined the impact of UDS frequency on OAT patient outcomes. Our search was consistent with a recent critical review of the literature by McEachern et al., which only identified one full-text report that met their search criteria studies focusing on individuals with substance use disorders and comparing UDS frequency to evaluate health outcomes. The other study evaluating UDS frequency was a three-arm randomized open-label trial (N = 53) by Chutuape et al.. The main intervention was

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random weekly or monthly testing, which was associated with higher retention rates over time, compared to no urine testing or contingency management (44). Although there is minimal research on UDS frequency and OAT outcomes, our study and the other study by Chutuape et al. were consistent in demonstrating the positive effect of more frequent UDS on retention. Additional research is required to continue to add to this evidence base to provide clinicians with clearer, consistent guidelines on UDS frequency across Canada.

Some limitations in the current study require consideration. First, there is the possibility of data entry and reporting errors associated with using administrative-level data. Second, the data is collected for physician remuneration and funding therefore, its initial intention is not for research. Third, although we considered various factors associated with treatment retention, there is potential for unmeasured confounding, including confounding related to other substance use (37, 45, 46), social and interpersonal factors (47-50) and clinical characteristics (51, 52) due to our study only having access to routinely collected data. Finally, in this study, methadone and buprenorphine/naloxone patients were grouped. Research has shown that OAT medication type can impact retention. Therefore further study is needed to compare UDS frequency between methadone and buprenorphine/naloxone patients. Finally, some expert opinions have suggested that routine use of urine toxicology testing reinforces a power dynamic and invites shame, stigma and judgment. We were not able to account for such factors in our analysis (53).

## **CONCLUSION**

In summary, our study identified a significant association between the frequency of UDS and one-year treatment retention in OAT. Given the evidence regarding the benefits of frequent

UDS, our findings put into question the recent changes in OAT guidelines recommending UDS only be conducted monthly. The results can be generalized to any other locations with similar OAT regulations. This study adds to previous research showing the association between UDS frequency and positive OAT treatment outcomes, and more research is needed to strengthen the evidence base for UDS frequency in OAT.

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- 3 4	LIST OF ABBREVIATIONS
5 6	ACM All-Cause Mortality
7 8	aOR Adjusted Odds Ratio
9 10	CI Confidence Interval
11 12	CIHI Canadian Institute for Health Information
13	d Standardized Differences
14 15	DAD Discharge Abstract Database
16 17	HIV Human Immunodeficiency Virus
18 19	ICES Institute for Clinical Evaluative Sciences
20 21	LHIN Local Health Integration Network
22 23	NACRS National Ambulatory Care Reporting System
24	<b>OAT</b> Opioid Agonist Treatment
25 26	ODB Ontario Drug Benefit Plan
27 28	OHIP Ontario Health Insurance Plan
29 30	OP Odds Patio
31 32	OUD Origid Las Disorder
33	OUD Opioid Use Disorder
35	RPDB Registered Persons Database
36 37	SAS Statistical Analytics Software
38 39	
40 41	DECLARATIONS
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# **Authors' contributions**

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Kristen A. Morin participated in the conceptualization, design, data analysis, writing and preparation of the article in question.

John R. Dabous participated in the conceptualization, data analysis, and final revision of the article in question

Dr. David C. Marsh is the corresponding author. He played a leadership role in planning of this study as part of a larger research project. He also has contributed to the interpretation of results and final review of the article in question.

# Authors' information

KA Morin is a postdoctoral fellow at the Northern Ontario School of Medicine. JR Dabous is a PhD Candidate in the School of Rural and Northern Health at Laurentian University. DC Marsh maintains the following roles: Chief Medical Canadian Addiction Treatment Center, opioid agonist therapy provider, and Associate Dean of Community Engagement and Associate Dean of Research, Research Innovation and International Relations Professor, Clinical Sciences at the Northern Ontario School of Medicine. He is a well-established physician and researcher in the addiction medicine field.

# **Competing interest statement**

Dr. David Marsh maintains the following roles: Chief Medical Director at CATC (Canadian Addiction Treatment Center), opioid agonist therapy provider. Dr. Marsh has no ownership stake in the CATC as a stipendiary employee. We do not foresee any conflict of interest as data will be made freely available to the public and the CATC, and the Universities have no ability to prevent publication and dissemination of knowledge. The authors have no conflicts declared.

# **Consent for publication**

All authors have given consent for publication. Universities have no ability to prevent publication and dissemination of knowledge.

# Ethics approval and consent to participate

The Laurentian University Research Ethics Board, provided ethical approval under project ID number 6009752.

# Availability of data and material

All relevant data are within the manuscript and its Supporting Information files. The data were made available through ICES Data Analytic Services (DAS). Raw data cannot be shared under conditions set by ICES policy.

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## Figure 1: Flow Chart Outlining Data Build Including Linkages.



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Title and abstra	nct				
		<ul> <li>(a) Indicate the study's design with a commonly used term in the title or the abstract</li> <li>(b) Provide in the abstract an informative and balanced summary of what was done and what was found</li> </ul>	page 2 - ABSTRACT, , "Data for this retrospective cohort"	<ul> <li>RECORD 1.1: The type of data used should be specified in the title or abstract. When possible, the name of the databases used should be included.</li> <li>RECORD 1.2: If applicable, the geographic region and timeframe within which the study took place should be reported in the title or abstract.</li> <li>RECORD 1.3: If linkage between databases was conducted for the study, this should be clearly stated in the title or abstract.</li> </ul>	page 2- ABSTRACT, , in-text reference: "were derived from administrative data sources " and page 2- ABSTRACT, in-text reference: "in Ontario, Canada" page 2- ABSTRACT, in-text reference: "All patient information was linked anonymously across databases using

					digit health card numbers."
Introduction,				• •	
Background rationale	2	Explain the scientific background and rationale for the investigation being reported	page 4 to 5 - INTRODUCTION,		
Objectives	3	State specific objectives, including any pre-specified hypotheses	page 5- INTRODUCTION, in-text reference: "the goal of this study was to evaluate how UDS frequency impacts treatment retention in OAT in Ontario."		
Methods	1	1		1	
Study Design	4	Present key elements of study design early in the paper	page 5 - METHODS, in-text reference: "Data for this retrospective cohort study"	2001	
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	page 5 to 6 - METHODS		
Participants	6	(a) Cohort study - Give the eligibility criteria, and the sources and methods of	<b>Page 6 -</b> METHODS, in-text reference: " <i>We</i>	RECORD 6.1: The methods of study population selection (such as codes or algorithms used to	Page 6 and Figure 1 - METHODS,

		selection of participants. Describe methods of follow- up <i>Case-control study</i> - Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> - Give the eligibility criteria, and the sources and methods of selection of participants <i>(b) Cohort study</i> - For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> - For matched studies, give matching criteria and the number of controls per case	excluded all patients"	identify subjects) should be listed in detail. If this is not possible, an explanation should be provided. RECORD 6.2: Any validation studies of the codes or algorithms used to select the population should be referenced. If validation was conducted for this study and not published elsewhere, detailed methods and results should be provided. RECORD 6.3: If the study involved linkage of databases, consider use of a flow diagram or other graphical display to demonstrate the data linkage process, including the number of individuals with linked data at each stage.	Page 6, in-text reference: <i>"The</i> <i>Ontario Drug</i> <i>Benefit"</i> <i>n/a</i> Figure 1
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.	<b>Page 7 -</b> METHODS,	RECORD 7.1: A complete list of codes and algorithms used to classify exposures, outcomes, confounders, and effect modifiers should be provided. If these cannot be reported, an explanation should be provided.	<b>Page 7 -</b> METHODS,
Data sources/ measurement	8	For each variable of interest, give sources of data and	Page 6 - METHODS		

Diag	0	details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group		
DIas	9	address potential sources of bias	n/a	
Study size	10	Explain how the study size was arrived at	Figure 1	
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	Page 7 and 8- MEHTODS	
Statistical methods	12	(a)Describe all statistical methods, including those used to control for confounding	Page 8- MEHTODS, in-text reference: "Descriptive statistics were calculated"	200
		(b) Describe any methods used to examine subgroups and interactions	n/a	
		(c) Explain how missing data were addressed	page 6 - METHODS, in-text reference: "and those with missing"	

		<ul> <li>(d) <i>Cohort study</i> - If</li> <li>applicable, explain how loss</li> <li>to follow-up was addressed</li> <li>(e) Describe any sensitivity</li> <li>analyses</li> </ul>			
Data access and cleaning methods				RECORD 12.1: Authors should describe the extent to which the investigators had access to the database population used to create the study population.	Page 5- METHODS, "These data were obtained"
			revie	RECORD 12.2: Authors should provide information on the data cleaning methods used in the study.	page 6 - METHODS, in- text reference: "and those with missing"
Linkage				RECORD 12.3: State whether the study included person-level, institutional-level, or other data linkage across two or more databases. The methods of linkage and methods of linkage quality evaluation should be provided.	page 5 and 6 - METHODS, in- text reference: "Patient- level"
Results		-		-	
Participants	13	(a)Report the numbers of individuals at each stage of the study ( <i>e.g.</i> , numbers potentially eligible, examined for eligibility, confirmed	Figure 1	RECORD 13.1: Describe in detail the selection of the persons included in the study ( <i>i.e.</i> , study population selection) including filtering based on data quality,	Figure 1

		<ul> <li>eligible, included in the study, completing follow-up, and analysed)</li> <li>(b)Give reasons for non- participation at each stage.</li> <li>(c) Consider use of a flow diagram</li> </ul>		data availability and linkage. The selection of included persons can be described in the text and/or by means of the study flow diagram.	
Descriptive data	14	<ul> <li>(a)Give characteristics of study participants (<i>e.g.</i>, demographic, clinical, social) and information on exposures and potential confounders</li> <li>(b) Indicate the number of participants with missing data for each variable of interest</li> </ul>	Page 8- RESULTS, in-text reference: "There were significant differences between" page 6 - METHODS, in-text reference: "and those with		
Outcome data	15	Cohort study - Report numbers of outcome events or summary measures over timeCase-control study - Report numbers in each exposure category, or summary measures of exposureCross-sectional study - Report numbers of outcome events or summary measures	Page 9 and 10 -         RESULTS, in-text         reference: "As         shown in Table         2"		

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included	RESULTS, page 5, in-text reference: <i>"As shown in Table</i> 2" and Table 2		
Other analyses	17	Report other analyses done— e.g., analyses of subgroups and interactions, and sensitivity analyses	n/a		
Discussion	1	Γ	<b>N</b>	1	Γ
Key results	18	Summarise key results with reference to study objectives	Page 10 and 11 - DISCUSSION, in- text reference: <i>"The study sought</i> to evaluate"		
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Page 12 - DISCUSSION, in- text reference: "Some limitations in the current study"	RECORD 19.1: Discuss the implications of using data that were not created or collected to answer the specific research question(s). Include discussion of misclassification bias, unmeasured confounding, missing data, and changing eligibility over time, as they pertain to the study being reported.	Page 12 - DISCUSSION, in-text reference: "Some limitations in the current study"
Interpretation	20	Give a cautious overall interpretation of results	Page 12 an 13 - CONCLUSION,		

		considering objectives, limitations, multiplicity of analyses, results from similar				
		studies, and other relevant evidence				
Generalisabilit y	21	Discuss the generalisability (external validity) of the study results	Page 12 and 13 - CONCLUSION			

# **BMJ Open**

# Evaluating the association between urine drug screening frequency and retention in opioid agonist treatment in Ontario, Canada

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Keywords:	Substance misuse < PSYCHIATRY, PUBLIC HEALTH, EPIDEMIOLOGY





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**Title:** Evaluating the association between urine drug screening frequency and retention in opioid agonist treatment in Ontario, Canada

Running Title: Urine drug screen frequency and OAT retention

Authors: Kristen A. Morin<sup>1,2,3,4</sup>, John R. Dabous<sup>1</sup>, Frank Vojtesek<sup>1</sup>, David C. Marsh<sup>1,2,3,4</sup>

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## ABSTRACT

Objective: The objective of this study was to evaluate how urine drug screening frequency is associated with treatment retention in opioid agonist treatment (OAT).

Methods: Data for this retrospective cohort study of 55,921 adults in OAT in Ontario, Canada, were derived from administrative data sources between January 1, 2011, and December 31, 2015. All patient information was linked anonymously across databases using encrypted ten-digit health card numbers. Descriptive statistics were calculated for comparing urine drug screening frequency groups (less than monthly, monthly, bi-weekly and, weekly) using standardized differences (d) where d less than 10% indicated a statistically significant difference. A logistic regression model was then used to calculate odds ratios for the association between urine drug screening frequency and one-year treatment retention adjusting for baseline covariates, including sex, age, location of residence, income quintile, mental disorders, HIV status and deep tissue infections.

Results: Over 70 percent of the cohort had four or more urine drug screens per month (weekly or more UDS). Significant associations were observed between urine drug screening frequency and one-year treatment retention in OAT bi-weekly (adjusted Odds Ratio (aOR) = 3.20, 95% confidence interval (CI) 2.75-3.75); weekly urine drug screening (aOR = 6.86, 95% CI, 5.88-8.00) and; more than weekly (aOR = 8.03, 95% CI, 6.87-9.38) using the monthly or less groups as the reference.

Conclusion: This study identified a significant association between weekly urine drug screening and one-year treatment retention in OAT. Therefore, these findings put into question the recent changes in OAT guidelines recommending urine drug screening only be conducted monthly. There are limitations associated with the use of administrative data, potential unmeasured confounding. Therefore, more research is needed to strengthen the evidence base for urine drug screening frequency in OAT.

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### STRENGTHS AND LIMITATIONS OF THIS STUDY

- There is the possibility of data entry and reporting errors associated with using administrativelevel data.
- The data is collected for physician remuneration and funding therefore, its initial intention is not for research.
- There is potential for unmeasured confounding, including confounding related to other substance use (1-3), social and interpersonal factors (4-7) and clinical characteristics (8, 9) due to our study only having access to routinely collected data. Finally, in this study, methadone and buprenorphine/naloxone patients were grouped. Research has shown that OAT medication type can impact retention. Therefore further study is needed to compare UDS frequency between methadone and buprenorphine/naloxone patients.
- Some expert opinions have suggested that routine use of urine toxicology testing reinforces a power dynamic and invites shame, stigma and judgment. We were not able to account for such factors in our analysis (10).

### INTRODUCTION

An epidemic of opioid use disorder (OUD) and deaths related to opioid poisoning has emerged across Canada in last decade (1-5). Fortunately, OUD is treatable with Opioid Agonist Treatment (OAT), including methadone and buprenorphine/naloxone. Research has shown that OAT is the most effective treatment to reduce mortality and hospitalization rates, decrease the use of opioids and other substances, lower the transmission of HIV, hepatitis C and other infectious diseases, and improve unemployment rates and other social factors (2, 6-9). Despite its known benefits, uptake and effective use of OAT by general practitioners is relatively low. Little training is given to medical professionals about the complexity and continuum of care necessary for the successful treatment of individuals with OUD (10). Additionally, treatment discontinuation and cycling are very common (7, 8); and changes in opioid tolerance while on OAT (11)are contributing factors that lead to an exceptionally high risk of overdose mortality following discontinuation (2, 12-14). Sustained engagement in OAT, ideally for one year or more (15-17), is thus critical to realizing the protective benefits of this vital tool to address the opioid overdose crisis.

Patients in Ontario typically start treatment in a specialized addiction clinic for observed daily dosing for both methadone and buprenorphine/naloxone. Patients can receive increasing number of take home doses, based on the assessment of the physician in determining their level of functional stability (cessation of other opioid use, reduced problematic use of other substances, stable housing, stable physical and mental health, along with other factors.). Increasing or decreasing numbers of take home doses are linked to urine screening (UDS) results and frequency in an explicit contingency management schedule such that patients who are in the process of gradually increasing their level of stability, and thus number of weekly take home

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doses, will have more frequent urine testing (18, 19). These take-home privileges are increased based on appointment attendance and consistently negative UDS for opioids, cocaine, stimulants, and other substances. In Ontario, patients enrolled in OAT at specialized addiction clinics will achieve six take-home doses after at least eight months of negative UDS, which is equivalent to visiting the clinic once per week for a UDS and assessment. Within this general context there is scope for some variability in how this approach is applied by individual physicians. Some physicians place less emphasis on this contingency management approach or rely less on urine testing to determine which patients receive increased numbers of take home doses. Some physicians may also be concerned that frequent UDS acts as a deterrent to treatment retention which counteracts the effectiveness of contingency management in reducing other drug use and improving retention.

The cost of UDS billing has been the source of debate in Ontario (17, 18), resulting in recent UDS billing fee cuts (20) and recommendations for less frequent screening (21). Ideal UDS frequency is therefore critical to treat OUD effectively in a specialized OAT setting. However, a recent review conducted by McEachern et al. concluded that there is a critical gap in peer-reviewed evidence regarding UDS frequency and health outcomes for individuals in OAT. Despite this lack of evidence, the OAT guidelines in Ontario have been recently replaced with new national guidelines which recommend drug screening only once per month, even when a much higher frequency of UDS is currently being conducted. Furthermore, federal and provincial guidelines are inconsistent. They often rely on expert opinion and politically driven reasons rather than peer-reviewed evidence (22). In Ontario, there has been some variability in physician practice in terms of frequency of UDS and application of contingency management practices with respect to linking carry doses to drug-free urines. The study is meant to look at whether this variability impacts

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patient outcomes and in particular whether more frequent testing represents a barrier to retention, in OAT in Ontario.

#### **METHODS**

### **Study Design and setting**

Data for this retrospective cohort study of 55,921 adults with OUD in Ontario were derived from three databases that routinely collect publically funded health care services between January 1, 2011, and December 31, 2015. These data were obtained through the Data Analytics Services (DAS) department at ICES. ICES is a not-for-profit research organization that gathers population-based health and social data from Ontario's publicly funded health services to generate knowledge (23). The study data were accessed remotely using a secure server. Patientlevel information was linked anonymously across databases using encrypted ten-digit health card numbers. The linking protocol is used routinely for health system research in Ontario (24-26). The Laurentian University Research Ethics Board provided ethical approval for this study under project number 6009752. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were used to write this manuscript (27).

The Ontario Drug Benefit Plan database using drug identification numbers and the Ontario Health Insurance Plan (OHIP) database physician billing codes including OAT monthly management codes (K682, K683, and K684), visit/consultation codes (A680 and A957) and, point of care testing codes (G040, G041, G042 or G043) were used to define the primary study cohort. All patients who initiated OAT for the first time within the study time frame in Ontario were included. First-time OAT was defined as no previous history of treatment in the year before the first treatment episode. It is common for OAT patients to cycle between treatment and relapse (28, 29). Studies have demonstrated that multiple treatment attempts are correlated with a higher

likelihood of positive outcomes (30-32). We chose only to include first-time OAT patients to eliminate bias related to numerous treatment attempts.

We excluded all patients under 15 years old, patients who were not eligible for OHIP, non-Ontario residents, and those with missing age, gender, and postal codes used for identification and linking across databases. We then combined patients identified from ODB, patients identified from OHIP, and patients identified in both databases to create the primary study cohort. See Figure 1.

### Patient and Public Involvement

There was no patient and public involvement involved in the design, conduct, reporting or dissemination of our research.

#### **Study variables**

Baseline statistics were used to describe the study population and included age groups (18 to 34, 35 to 64, 65+), sex (male vs female), income quintile (1 - highest, 2, 3, 4, 5), and location of residence, missing n =3 (northern/rural, northern/urban, southern/rural, southern/urban), all extracted from the RPDB database. Comorbidity variables included: HIV status (positive vs negative), Deep tissue infections (yes vs no), mental health conditions (yes vs no). We defined patients with mental disorders group using OHIP database diagnostic codes. The following codes are outlined in Appendix A.

#### **UDS frequency**

UDS billing information, including the following OHIP fee codes: G040, G041, G042, G043, were extracted from the OHIP database. Patients were assigned to one of four groups: Less than once in 30 days, bi-weekly (>1 to <=3 in 30 days), weekly (>3 to <=5 in 30 days) more than

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weekly (>5 in 30 days). The classification of groups was decided based on the distribution of the means of the UDS in 30 days.

### **One-year treatment retention**

One-year treatment retention is a common measure used in several studies as a positive treatment outcome (15, 17, 33-37). After their first treatment episode, all patients were followed to a maximum follow-up date of December 31, 2016. Continuous OAT (one-year treatment retention) was assessed based on prescription refill data (from the Ontario Drug Benefit database). The thirty-day cut-off was chosen based on this interval has been well-established in this field of research (15, 33, 36). The database used for medication dispensing in this study might not capture doses administered in a hospital or provincial correctional setting. However, in Ontario, patients will typically continue to receive methadone or buprenorphine in these settings. Since most hospital admissions or provincial incarcerations are less than 30 days, this approach allows the analysis to be conducted without misinterpreting such events as treatment interruption.

### **Statistical Analysis**

Descriptive statistics were calculated for all UDS groups and used standardized differences (d) where d less than 10% indicated a clinically relevant difference. Standardized differences are not affected by sample size. Therefore, standard differences can be used to compare the balance in measured variables between exposure groups in the study (38).

A logistic regression model was then used to calculate odds ratios for the association between UDS frequency and one-year treatment retention. We adjusted for baseline covariates in the models, including sex, age, location of residence, income quintile, mental disorders, HIV status and deep tissue infections. All data were analyzed using SAS Version 9.4 (39).

## RESULTS

Figure 2 shows that between January 2011 and December 2015, a total of 55,921 individuals were included in the study. Of these, 6,252 (11.20%) had UDS monthly or less, 9,495 (16.98%) had bi-weekly UDS, 24,948 (44.61%) had weekly UDS, and 15,226 (27.23%) had UDS six or more times in 30 days.

There were significant differences between the UDS frequency groups. Notably, we observed that the proportion of younger patients (aged 15 to 34) increased and that the proportion of older patients (55 to 65+) decreased with increased UDS frequency. Similarly, the proportion of northern rural patients increased, and the proportion of southern rural patients decreased with higher UDS frequency. Other demographic characteristics at OAT initiation are shown in Table 1.

			<u>U</u> 1	ine Drug	Test Frequency	7		
	Monthly or less		Bi-Weekly		Weekly	_	More than weekly	
	n=6,252 (11.20)	d	n=9,495 (16.98)	d	n = 24,948 (44.61)	d	n =15,226 (27.23)	d
Sex		0.02		0.03		0.09		0.12*
Female	2,268 (36.28)		3,217 (33.88)		8,217 (32.94)		5,992 (39.35)	
Male	3,984 (63.72)		6,278 (66.12)		16,731 (67.06)		9,234 (60.65)	
Age		0.64*		0.36*		0.24*		0.40*
15 to 24	720 (11.20)		1,064 (11.21)		4,716 (18.90)		3,741 (24.57)	
25 to 34	1,358 (21.72)		2,656 (27.97)		9,086 (36.42)		5,906 (38.79)	
35 to 44	1,186 (18.967)		2,249 (23.69)		5,573 (22.34)		3,087 (20.27)	
45 to 54	1,415 (22.63)		2,277 (23.98)		4,161 (16.68)		1,947 (12.79)	
55 to 64	887 (14.19)		1,004 (10.57)		1,289 (5.17)		505 (3.32)	
65 +	686 (10.97)		245 (2.58)		123 (0.49)		40 (0.26)	
<b>Geography</b> Northern		0.11*		0.29*		0.22*		0.45*
Rural Northern	366 (5.85)		239 (2.52)		828 (3.32)		1,400 (9.19)	
Urban Southern	445 (7.12)		441 (4.64)		1,753 (7.03)		2,655 (17.44)	
Rural	457 (7.31)		672 (7.08)		2,107 (8.45)		1,462 (9.60)	

Table 1: Summary statistics of individuals with (	OUD by UDS frequency group

Southern Urban	4,984 (79.72)		8,143 (85.76)		20,260 (81.21)		9,709 (63.77)	
Income		0.10		0.11*		0.05		0.15
l (lowest)	1,999 (31.97)		2,847 (29.98)		8,293 (33.24)		5,953 (39.10)	
2	1,348 (21.56)		2,206 (23.23)		5,644 (22.62)		3,301 (21.68)	
3	1,089 (17.42)		1,777 (18.72)		4,586 (18.38)		2,520 (16.55)	
4	956 (15.29)		1,497 (15.77)		3,755 (15.05)		1,884 (12.37)	
5	860 (13.76)		1,168 (12.30)		2,670 (10.70)		1,568 (10.30)	
Mental								
Health	5,544 (88.68)	0.06	8,426 (88.74)	0.06	21,472 (86.07)	0.05	13,234 (86.92)	0.01
HIV positive	59 (0.94)	0.03	111 (1.17)	0.06	158 (0.63)	0.02	83 (0.55)	0.03
Deep Tissuo								
Infection	344 (5.50)	0.14*	420 (4.42)	0.09	591 (2.37)	0.07	321 (2.11)	0.08

As shown in Table 2, a logistic regression model was conducted to determine the association between UDS frequency and one-year treatment retention. A total of 250 (4.00%) of patients who were retained for one year had less than one UDS in 30 days, 1,398 (14.72%) had bi-weekly UDS, 6,185 (24.79%) had weekly UDS, and 4,153 (27.28%) had more than weekly UDS. UDS frequency was positively associated with one-year treatment retention within our cohort. Compared to patients who had less than monthly UDS, bi-weekly UDS was associated with an increase in one-year treatment retention (adjusted Odds Ratio (aOR) = 3.20, 95% confidence interval (CI) 2.75-3.75); weekly UDS was associated with an increase in one-year treatment retention (aOR = 6.86, 95% CI, 5.88-8.00) and; more than weekly UDS was associated with an increase in one-year treatment retention (aOR = 8.03, 95% CI, 6.87-9.38).

Table 2: Urine	Drug Screen	ing Frequency	and One-year	<b>Treatment Retention</b>
	0		2	

UDS Frequency per Month	Patients (N)	One-year Retention, N (%)	Unadjusted OR	Unadjusted 95% CI	Adjusted OR	Adjusted 95% CI
Less than monthly*	6,252	250 (4.0)				
Bi-weekly	9,495	1,398 (14.72)	3.18	2.71-3.72	3.20	2.75-3.75
Weekly	24,948	6,185 (24.79)	6.07	5.22-7.05	6.86	5.88-8.00

More than weekly	15,226	4,153 (27.28)	6.90	5.93-8.03	8.03	6.87-9.38
*reference group						
UDS - Urine drug screening						
OR – Odds Ratio						
aOR - Adjusted Odds Ratio						
95% CI – 95% confidence interval						

### DISCUSSION

The study sought to evaluate the relationship between the frequency of UDS tests and oneyear retention in OAT. Drawing on longitudinal data from publically funded health administrative data in Ontario, Canada, it was observed that more frequent UDS tests are associated with a significantly increased likelihood of one-year treatment retention in OAT.

We found a certain degree of heterogeneity in the UDS frequency groups. UDS frequency can vary based on patient drug use, treatment compliance, time in treatment, some physician discretion. Since in Ontario UDS is part of contingency management, the lowest frequency of urine testing would typically be seen in two groups of patients. First, less frequent testing is done for those patients who are chronically unstable (most often due to sustained use of other drugs, homelessness, or ineffectively treated mental health problems or a combination of these) and thus have the frequency or urine testing reduced as they are not engaged in demonstrating increasing levels of stability. Secondly, those patients who have demonstrated sustained periods of stability, including cessation of problematic use of other substances, will have observed dosing and urine testing less frequently and sufficient only to monitor for continued stability.

In our data we found that younger patients and those living in northern rural areas had more frequent UDS tests. This observation is likely reflective of physician and patient factors which may account for the higher frequency of urine testing in the Northern Ontario patient group. The physicians practicing in this geographic area may place more emphasis on adherence to the

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contingency management schedule in determining frequency of both UDS and take home doses. Alternatively, given the longer distances between patients and providers (35), the patients in this area may be more motivated to engage in the process of increased UDS in the short-term in order to obtain less frequent testing and higher frequency take home doses in the long-term. It is worth noting that our repeated observation in earlier papers (34, 35, 40) of higher treatment retention in the northern Ontario geographic area and the higher frequency of testing in this geographic area demonstrated in this paper is consistent with the overall relationship between UDS frequency and retention reported here.

In this study, when evaluating one-year treatment retention as the primary outcome, we accounted for variations in UDS frequency by adjusting for baseline patient characteristics. Compared to monthly UDS, increased frequency of urine screening was associated with a higher likelihood of one-year treatment retention in OAT. Importantly, we observed that the more frequent the UDS, the stronger the association was with one-year treatment retention. Research has shown that one-year treatment is correlated with various positive health outcomes for OAT

patients, including reduced rates of drug use, hospitalization, criminal activity, and mortality (15,

33). Therefore, it is often used as a marker for a positive treatment outcome.

In our review of the literature, we found that only one other study has examined the impact of UDS frequency on OAT patient outcomes. Our search was consistent with a recent critical review of the literature by McEachern et al., which only identified one full-text report that met their search criteria studies focusing on individuals with substance use disorders and comparing UDS frequency to evaluate health outcomes. The other study evaluating UDS frequency was a three-arm randomized open-label trial (N = 53) by Chutuape et al.. The main intervention was

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random weekly or monthly testing, which was associated with higher retention rates over time, compared to no urine testing or contingency management (41). Although there is minimal research on UDS frequency and OAT outcomes, our study and the other study by Chutuape et al. were consistent in demonstrating the positive effect of more frequent UDS on retention. Additional research is required to continue to add to this evidence base to provide clinicians with clearer, consistent guidelines on UDS frequency across Canada.

Some limitations in the current study require consideration. First, there is the possibility of data entry and reporting errors associated with using administrative-level data. Second, the data is collected for physician remuneration and funding therefore, its initial intention is not for research. Third, although we considered various factors associated with treatment retention, there is potential for unmeasured confounding, including confounding related to other substance use (36, 42, 43), social and interpersonal factors (44-47), the lack of patient descriptors that assess addiction severity and clinical characteristics (48, 49) due to our study only having access to routinely collected data. Finally, in this study, methadone and buprenorphine/naloxone patients were grouped due to low frequency of buprenorphine/naloxone prescriptions during our study period. Research has shown that OAT medication type can impact retention. Therefore further study is needed to compare UDS frequency between methadone and buprenorphine/naloxone patients. Finally, some expert opinions have suggested that routine use of urine toxicology testing reinforces a power dynamic and invites shame, stigma and judgment. We were not able to account for such factors in our analysis (50).

#### CONCLUSION

In summary, our study identified a significant association between the frequency of UDS and one-year treatment retention in OAT. Given the evidence regarding the benefits of frequent

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UDS, our findings put into question the recent changes in OAT guidelines recommending UDS only be conducted monthly. The results can be generalized to any other locations with similar OAT regulations. This study adds to previous research showing the association between UDS frequency and positive OAT treatment outcomes, and more research is needed to strengthen the evidence base for UDS frequency in OAT.

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## FIGURE LEGEND

Figure 1: Flow Chart Outlining Data Build Including Linkages

Figure 2: Proportion of individuals retained for one year by UDS frequency groups

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2 3 4	LIST OF ABBREVIATIONS
5	ACM All-Cause Mortality
7 8	aOR Adjusted Odds Ratio
9 10	CI Confidence Interval
11 12	CIHI Canadian Institute for Health Information
13	d Standardized Differences
15	DAD Discharge Abstract Database
16	HIV Human Immunodeficiency Virus
18 19	ICES Institute for Clinical Evaluative Sciences
20 21	LHIN Local Health Integration Network
22 23	NACRS National Ambulatory Care Reporting System
24 25	OAT Opioid Agonist Treatment
26 27	ODB Ontario Drug Benefit Plan
28 29	OHIP Ontario Health Insurance Plan
30	OR Odds Ratio
32	OUD Opioid Use Disorder
33 34	RPDB Registered Persons Database
35 36 37	SAS Statistical Analytics Software
38	
39 40 41	DECLARATIONS
42 43	Acknowledgments

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# **Authors' contributions**

Kristen A. Morin participated in the conceptualization, design, data analysis, writing and preparation of the article in question.

John R. Dabous participated in the conceptualization, data analysis, and final revision of the article in question

Dr. David C. Marsh is the corresponding author. He played a leadership role in planning of this study as part of a larger research project. He also has contributed to the interpretation of results and final review of the article in question.

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## **Competing interest statement**

Dr. David Marsh maintains the following roles: Chief Medical Director at CATC (Canadian Addiction Treatment Center), opioid agonist therapy provider. Dr. Marsh has no ownership stake in the CATC as a stipendiary employee. We do not foresee any conflict of interest as data will be made freely available to the public and the CATC, and the Universities have no ability to prevent publication and dissemination of knowledge. The authors have no conflicts declared.

# **Consent for publication**

All authors have given consent for publication. Universities have no ability to prevent publication and dissemination of knowledge.

# Ethics approval and consent to participate

The Laurentian University Research Ethics Board, provided ethical approval under project ID number 6009752.

# Availability of data and material

All relevant data are within the manuscript and its Supporting Information files. The data were made available through ICES Data Analytic Services (DAS). Raw data cannot be shared under conditions set by ICES policy.

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## Figure 1: Flow Chart Outlining Data Build Including Linkages.



Figure 2: Proportion of individuals retained for one year by UDS frequency groups

# Appendix D- Definition and ICD 9 and ICD10 codes for Mental Health Conditions

Mental Health	ICD-10 Codes (DX10CODE1)	ICD-9 Codes Go Back
Conditions		
Neurodevelopmental Disorders	F90 Attention-deficit hyperactivity disorders Includes: attention deficit disorder with hyperactivity attention deficit syndrome with hyperactivity F90.0 Attention-deficit hyperactivity disorder, predominantly inattentive type F90.1 Attention-deficit hyperactivity disorder, predominantly hyperactive type F90.2 Attention-deficit hyperactivity disorder,	<b>314.0ATTENTION DEFICIT DIS*</b> 314.00Attention-Deficit/Hyperactivity Disorder Predominantly Inattentive Type314.01Attention-Deficit/Hyperactivity Disorder Combined Type or Attention-Deficit/Hyperactivity Disorder Predominantly Hyperactive-Impulsive Ty 314.9314.9Attention-Deficit/Hyperactivity Disorder NOS
	combined type F90.8 Attention-deficit hyperactivity disorder, other type F90.9 Attention-deficit hyperactivity disorder, unspecified type Attention-deficit hyperactivity disorder of childhood or adolescence NOS Attention-deficit hyperactivity disorder NOS	
Schizophrenia Spectrum	Schizophrenia, schizotypal, delusional, and other	295 SCHIZOPHRENIC DISORDERS*
and Related	non-mood psychotic disorders (F20-F29)	295.0 SIMPLE SCHIZOPHRENIA*
Disorders	F20 Schizophrenia F20 0 Paranoid schizophrenia Paranhrania	295.00 SIMPLE SCHIZOPHREN- LINSPECIFIED
	schizophrenia	295.01 SIMPL SCHIZOPHREN-SUBCHR
	F20.1 Disorganized schizophrenia	295.02 SIMPLE SCHIZOPHREN-CHR
	Hebephrenic schizophrenia	295.03 SIMP SCHIZ-SUBCHR/EXACER
	Hebephrenia F20 2 Catatonic schizophrenia	295.04 SIMPL SCHIZO-CHR/EXACERB 295.05 SIMPL SCHIZOPHREN-REMISS
	Schizophrenic catalepsy	295.1 HEBEPHRENIA*
	Schizophrenic catatonia	295.10 Schizophrenia, Disorganized Type
	Schizophrenic flexibilitas cerea	295.11 HEBEPHRENIA-SUBCHRONIC
	F20.3 Undifferentiated schizophrenia	295.12 HEBEPHRENIA-CHRONIC
	Atypical schizophrenia F20 5 Residual schizophrenia	295.15 HEBEPHREN-SUBCHR/EXACERB
	Restzustand (schizophrenic)	295.15 HEBEPHRENIA-REMISSION
	Schizophrenic residual state	295.2 CATATONIC SCHIZOPHRENIA*
	F20.8 Other schizophrenia	295.20 Schizophrenia, Catatonic Type
	F20.81 Schizophreniform disorder	295.21 CATATONIA-SUBCHRONIC
	F20 89 Other schizophrenia	295.22 CATATONIA-CHRONIC 295.23 CATATONIA-SUBCHR/EXACERB
	Cenesthopathic schizophrenia	295.24 CATATONIA-CHR/EXACERB
	Simple schizophrenia	295.25 CATATONIA-REMISSION
	F20.9 Schizophrenia, unspecified	295.3 PARANOID SCHIZOPHRENIA*
	F21 Schizotypal disorder	295.30 Schizophrenia, Paranoid Type
	Latent schizophrenia	295.31 PARANOID SCHIZO-SUBCHR 295.32 PARANOID SCHIZO-CHRONIC
	Latent schizophrenic reaction	295.32 PARAN SCHIZO-SUBCHR/EXAC
	Prepsychotic schizophrenia	295.34 PARAN SCHIZO-CHR/EXACERB
	Prodromal schizophrenia	295.35 PARANOID SCHIZO-REMISS
	Pseudoneurotic schizophrenia	295.4 AC SCHIZOPHRENIC EPISODE*
	Schizotypal personality disorder	295.40 Schizophreniform Disorder
	F22 Delusional disorders	295.42 AC SCHIZOPHRENIA-CHR
	Delusional dysmorphophobia	295.43 AC SCHIZO-SUBCHR/EXACERB
	Involutional paranoid state	295.44 AC SCHIZOPHR-CHR/EXACERB
	Paranoia	295.45 AC SCHIZOPHRENIA-REMISS
	Paranoia querulans	295.5 LATENT SCHIZOPHRENIA*
	Paranoid psychosis	295.50 LATENT SCHIZOPHREN-UNSP 205.51 LAT SCHIZOPHDEN SUDCUP
	Paranhrenia (late)	275.51 LAT SCHIZOPHKEN-SUBCHK 295.52 LATENT SCHIZOPHREN_CHR
	Sensitiver Beziehungswahn	295.53 LAT SCHIZO-SUBCHR/EXACER
	F23 Brief psychotic disorder	295.54 LATENT SCHIZO-CHR/EXACER
	n '1 ''	205.55 I AT COULTODUDEN DEMICO

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		Psychogenic paranold psychosis	293.0	
		F24 Shared psychotic disorder	295.60	Schizophrenia, Residual Type
		Folie à deux	295.61	RESID SCHIZOPHREN-SUBCHR
		Induced paranoid disorder	295.62	RESIDUAL SCHIZOPHREN-CHR
		Induced psychotic disorder	295.63	RESID SCHIZO-SUBCHR/EXAC
		F25 Schizoaffective disorders	295.64	RESID SCHIZO-CHR/EXACERB
		F 25.0 Schizoahective disorder, bipolar type	295.05	RESID SCHIZOPHREN-REMISS
		Cyclic schizophrenia Schizooffective disorder, manie type	295.7	Schizoaffective Disorder
		Schizoaffective disorder, mixed type	295.70	SCHIZOAFEECTIVE SUBCHP
		Schizoaffective psychosis bipolar type	295.71	SCHIZOAFFECTIVE-CHRONIC
		Schizonhreniform psychosis, manic type	295.72	SCHIZOAFF-SUBCHR/FXACER
		F25 1 Schizoaffective disorder. depressive type	295.75	SCHIZOAFFECT-CHR/EXACER
		Schizoaffective psychosis, depressive type	295.75	SCHIZOAFFECTIVE-REMISS
		Schizophreniform psychosis, depressive type	295.8	SCHIZOPHRENIA NEC*
		F25.8 Other schizoaffective disorders	295.80	SCHIZOPHRENIA NEC-UNSPEC
		F25.9 Schizoaffective disorder, unspecified	295.81	SCHIZOPHRENIA NEC-SUBCHR
		Schizoaffective psychosis NOS	295.82	SCHIZOPHRENIA NEC-CHR
	1	F28 Other psychotic disorder not due to a	295.83	SCHIZO NEC-SUBCHR/EXACER
		substance or known physiological condition	295.84	SCHIZO NEC-CHR/EXACERB
		Chronic hallucinatory psychosis	295.85	SCHIZOPHRENIA NEC-REMISS
		F29 Unspecified psychosis not due to a substance	295.9	SCHIZOPHRENIA NOS*
		or known physiological condition	295.90	Schizophrenia Undifferentiated Type
		Psychosis NOS	295.91	SCHIZOPHRENIA NOS-SUBCHR
			295.92	SCHIZOPHRENIA NOS-CHR
			295.93	SCHIZO NOS-SUBCHR/EXACER
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			297.1	Shared Psychotic Disorder
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_	Bipolar and Related	F30 –F31 Manic episode	298.4 298.8 298.9 296.00	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episoo
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes:	298.4 298.8 298.9 296.00 Unspecifie	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode	298.4 298.8 298.9 296.00 Unspecifie 296.01	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod ed Bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod
-	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episor d Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor
-	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate 296.03 Severe Wi	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episor d Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor thout Psychotic Features
-	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod di Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod bipolar I Disorder, Single Manic Episod
_	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Psychotic Features Bipolar I Disorder, Single Manic Episod Remission
_	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms E30.2 Manic apisode severe with psychotic	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 La Full Rei	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission
	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ren 296.1	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episor d Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor thout Psychotic Features Bipolar I Disorder, Single Manic Episor thout Psychotic Features Bipolar I Disorder, Single Manic Episor the Psychotic Features Bipolar I Disorder, Single Manic Episor Remission Bipolar I Disorder, Single Manic Episor Remission Bipolar I Disorder, Single Manic Episor MANIC RECURRENT EPISODE*
	Bipolar and Related Disorders	F30 -F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.1 296.10	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod mission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.10 296.10 296.10	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod mission Bipolar I Disorder, Single Manic Episod MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD
_	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic symptoms, mapecified         F30.12 Manic episode without psychotic symptoms, mild         F30.13 Manic episode, severe, without psychotic symptoms         F30.13 Manic episode, severe, without psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.10 296.10 296.11 296.12	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-MOD
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.10 296.11 296.12 296.13	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod d Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE
_	Bipolar and Related Disorders	F30 –F31 Manic episode Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ren 296.10 296.11 296.12 296.13 296.14	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episor d Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor thout Psychotic Features Bipolar I Disorder, Single Manic Episor thout Psychotic Features Bipolar I Disorder, Single Manic Episor the Psychotic Features Bipolar I Disorder, Single Manic Episor Remission Bipolar I Disorder, Single Manic Episor Recurs MANIC DIS-UNSPEC RECUR MANIC DIS-MOD RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC-SEV W PSYCHO
_	Bipolar and Related Disorders	F30 – F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic symptoms, unspecified         F30.12 Manic episode without psychotic symptoms, mild         F30.13 Manic episode, severe, without psychotic symptoms         rs0.13 Manic episode, severe, without psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.8 Other manic episodes	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ren 296.10 296.11 296.12 296.13 296.14 296.15	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episor di Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor thout Psychotic Features Bipolar I Disorder, Single Manic Episor th Psychotic Features Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor th Psychotic Features Bipolar I Disorder, Single Manic Episor mission Bipolar I Disorder, Single Manic Episor MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-MOD RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC PART REMISS
_	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic symptoms, mild         F30.12 Manic episode without psychotic symptoms, moderate         F30.13 Manic episode, severe, without psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         Manic stupor         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.5 Other manic episodes	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.10 296.11 296.12 296.13 296.14 296.15 296.16	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episor di Bipolar I Disorder, Single Manic Episor Bipolar I Disorder, Single Manic Episor thout Psychotic Features Bipolar I Disorder, Single Manic Episor th Psychotic Features Bipolar I Disorder, Single Manic Episor th Psychotic Features Bipolar I Disorder, Single Manic Episor Remission Bipolar I Disorder, Single Manic Episor MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-MOD RECUR MANIC SEVERE RECUR MANIC-SEVERE RECUR MANIC-PART REMISS RECUR MANIC-FULL REMISS
_	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.11 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic symptoms, mild         F30.12 Manic episode without psychotic symptoms, moderate         F30.13 Manic episode, severe, without psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         Manic stupor         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.4 Manic episode in full remission         F30.5 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.4	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod di Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod th Psychotic Features Bipolar I Disorder, Single Manic Episod th Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-MILD RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE RECUR MANIC SEVERE RECUR MANIC-PART REMISS RECUR MANIC-FULL REMISS BIPOLAR AFFECTIVE, MANIC*
_	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic symptoms, mild         F30.12 Manic episode without psychotic symptoms, moderate         F30.13 Manic episode, severe, without psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.8 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified         Mania NOS	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Rei 296.11 296.12 296.13 296.14 296.15 296.16 296.4	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod di Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-MILD RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE RECUR MANIC SEV W PSYCHO RECUR MANIC-PART REMISS RECUR MANIC-FULL REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod
_	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic         symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, mild         F30.12 Manic episode without psychotic         symptoms, moderate         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode is psychotic symptoms         Manic stupor         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.8 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder	298.4 298.8 298.9 296.00 Unspecifie 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.04 In Partial I 296.06 In Full Ren 296.11 296.10 296.11 296.13 296.14 296.15 296.16 296.4 296.40 Hypomani	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod di Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-MOD RECUR MANIC SEV W PSYCHO RECUR MANIC-PART REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod c or Manic, Unspecified
_	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.11 Manic episode without psychotic         symptoms, unspecified         F30.12 Manic episode without psychotic         symptoms, mild         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode in partial remission         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.8 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ret 296.11 296.10 296.11 296.13 296.14 296.15 296.16 296.4 296.40 Hypomani 296.41	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod di Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE RECUR MANIC SEV W PSYCHO RECUR MANIC-FULL REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod c or Manic, Unspecified Bipolar I Disorder, Most Recent Episod
	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, unspecified         F30.12 Manic episode without psychotic         symptoms, mild         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.8 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:         manic-depressive illness	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ret 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.4 296.40 Hypomani 296.41 Manic, Mi	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod di Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC-FULL REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod c or Manic, Unspecified Bipolar I Disorder, Most Recent Episod Id
	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, unspecified         F30.12 Manic episode without psychotic         symptoms, mild         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:         manic-depressive illness         manic-depressive psychosis	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.05 In Full Ret 296.10 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.14 296.15 296.16 296.40 Hypomani 296.41 Manic, Mi 296.42	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC PART REMISS BIPOLAR AFFECTIVE, MANIC* BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod c or Manic, Unspecified Bipolar I Disorder, Most Recent Episod Id Bipolar I Disorder, Most Recent Episod
	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic symptoms, mild         F30.12 Manic episode without psychotic symptoms, moderate         F30.13 Manic episode, severe, without psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         F30.2 Manic episode, severe with psychotic symptoms         Mania stupor         Mania with mood-congruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.8 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:         manic-depressive illness         manic-depressive reaction	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ren 296.10 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.40 Hypomani 296.41 Manic, Mi 296.42 Manic, Mi	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Manic Episoder, Single Manic Episod Resistion Bipolar I Disorder, Single Manic Episod MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC-PART REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod c or Manic, Unspecified Bipolar I Disorder, Most Recent Episod Id Bipolar I Disorder, Most Recent Episod Id
	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic         symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, mild         F30.12 Manic episode, severe, without psychotic         symptoms, moderate         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         F30.2 Manic episode is psychotic symptoms         Mania stupor         Mania with mood-congruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode in full remission         F30.5 Other manic episodes         Hypomania         F30.9 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:         manic-depressive illness         manic-depressive reaction         F31.0 Bipolar disorder, current episode	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ren 296.10 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.4 296.4 296.41 Manic, Mi 296.43 Manic, Mi	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Resistion Bipolar I Disorder, Single Manic Episod MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC PART REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod c or Manic, Unspecified Bipolar I Disorder, Most Recent Episod derate Bipolar I Disorder, Most Recent Episod
	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, mild         F30.12 Manic episode, severe, without psychotic         symptoms, moderate         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:         manic-depressive illness         manic-depressive reaction         F31.0 Bipolar disorder, current episode         hypomanic         Eval 1.0 Bipolar disorder, current episode	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.06 In Full Ren 296.10 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.4 296.41 Manic, Mi 296.43 Manic, Mi	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Resistion Bipolar I Disorder, Single Manic Episod MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-MILD RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC FULL REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod docerate Bipolar I Disorder, Most Recent Episod doderate Bipolar I Disorder, Most Recent Episod
	Bipolar and Related Disorders	F30 -F31 Manic episode         Includes:         bipolar disorder, single manic episode         mixed affective episode         F30.1 Manic episode without psychotic symptoms         F30.10 Manic episode without psychotic symptoms, unspecified         F30.10 Manic episode without psychotic         symptoms, unspecified         F30.11 Manic episode without psychotic         symptoms, mild         F30.12 Manic episode, severe, without psychotic         symptoms, moderate         F30.13 Manic episode, severe, without psychotic         symptoms         F30.2 Manic episode, severe with psychotic         symptoms         Manic stupor         Mania with mood-congruent psychotic symptoms         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode in partial remission         F30.4 Manic episode, unspecified         Mania with mood-incongruent psychotic symptoms         F30.3 Manic episode, unspecified         Mania NOS         F31 Bipolar disorder         Includes:         manic-depressive psychosis         manic-depressive reaction         F31.0 Bipolar disorder, current episode manic         mic-depressive reaction         F31.0 Bipolar disorder, current episode manic <td>298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.05 In Partial I 296.10 296.10 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.4 296.41 Manic, Mi 296.43 Manic, Sev 296.44 Manic, Sev 296.44 Manic, Sev</td> <td>PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC SEV W PSYCHO RECUR MANIC-SEV W PSYCHO RECUR MANIC-FULL REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod doderate Bipolar I Disorder, Most Recent Episod were Without Psychotic Features Bipolar I Disorder, Most Recent Episod were Without Psychotic Features</td>	298.4 298.8 298.9 296.00 Unspecific 296.01 Mild 296.02 Moderate 296.03 Severe Wi 296.04 Severe Wi 296.05 In Partial I 296.05 In Partial I 296.10 296.10 296.11 296.10 296.11 296.12 296.13 296.14 296.15 296.16 296.4 296.41 Manic, Mi 296.43 Manic, Sev 296.44 Manic, Sev 296.44 Manic, Sev	PSYCHOGEN PARANOID PSYCH Brief Psychotic Disorder Psychotic Disorder NOS Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod thout Psychotic Features Bipolar I Disorder, Single Manic Episod the Psychotic Features Bipolar I Disorder, Single Manic Episod Remission Bipolar I Disorder, Single Manic Episod Remission MANIC, RECURRENT EPISODE* RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-UNSPEC RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC DIS-SEVERE RECUR MANIC SEV W PSYCHO RECUR MANIC-SEV W PSYCHO RECUR MANIC-FULL REMISS BIPOLAR AFFECTIVE, MANIC* Bipolar I Disorder, Most Recent Episod doderate Bipolar I Disorder, Most Recent Episod were Without Psychotic Features Bipolar I Disorder, Most Recent Episod were Without Psychotic Features

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 <b>F31.10 Bipolar disorder, current episode manic</b> 296.45 Bipolar I Disorder, Most Recent Ep
without psychotic features, unspecified Manic, In Partial Remission
F31.11 Bipolar disorder, current episode manic without psychotic features mild
<b>F31.12 Bipolar disorder, current episode manic</b> 296.5 BIPOLAR AFFECT, DEPRESS*
without psychotic features, moderate 296.50 Bipolar I Disorder, Most Recent Ep
F31.13 Bipolar disorder, current episode manic Depressed, Unspecified
without psychotic features, severe 296.51 Bipolar I Disorder, Most Recent Ep
severe with psychotic features Bipolar disorder 296 52 Bipolar I Disorder Most Recent Fr
current episode manic with mood-congruent Depressed, Moderate
psychotic symptoms 296.53 Bipolar I Disorder, Most Recent Ep
Bipolar disorder, current episode manic with mood- Depressed, Severe Without Psychotic Features
E31.3 <b>Binder disorder current anisode depressed</b> Depressed Savere With Develotic Features
mild or moderate severity 296.55 Bipolar L Disorder, Most Recent Er
<b>F31.30 Bipolar disorder, current episode</b> Depressed, In Partial Remission
depressed, mild or moderate severity, unspecified 296.56 Bipolar I Disorder, Most Recent Ep
F31.31 Bipolar disorder, current episode Depressed, In Full Remission
depressed, mild290.6BIPULAR AFFECTIVE, MIXED*F31 32 Binolar disorder current enisode296.60Binolar Disorder Most Recent Fr
depressed, moderate Mixed, Unspecified
<b>F31.4 Bipolar disorder, current episode depressed,</b> 296.61 Bipolar I Disorder, Most Recent Ep
severe, without psychotic features Mixed, Mild
<b>F31.5 Bipolar disorder, current episode depressed</b> , 296.62 Bipolar I Disorder, Most Recent Ep
Severe, with psycholic features Mixed, Moderate Bipolar disorder, current episode depressed with 296.63 Bipolar I Disorder, Most Recent Fr
mood-incongruent psychotic symptoms Mixed, Severe Without Psychotic Features
Bipolar disorder, current episode depressed with 296.64 Bipolar I Disorder, Most Recent Ep
mood-congruent psychotic symptoms Mixed, Severe With Psychotic Features
<b>F31.6 Bipolar disorder, current episode mixed</b> <b>F31.60 Bipolar disorder, current episode mixed</b> <b>F31.60 Bipolar disorder, current episode mixed</b> Mixed In Partial Pamiasian
unspecified 296.66 Bipolar L Disorder Most Recent Er
<b>F31.61 Bipolar disorder, current episode mixed,</b> Mixed, In Full Remission
mild 296.7 Bipolar I Disorder, Most Recent Ep
F31.62 Bipolar disorder, current episode mixed, Unspecified
moderate 290.8 MANIC-DEPRESSIVE NEC/NOS F31 63 Binolar disorder current enisode mixed 296.80 Binolar Disorder NOS
severe, without psychotic features 296.81 ATYPICAL MANIC DISORDER
F31.64 Bipolar disorder, current episode mixed, 296.82 ATYPICAL DEPRESSIVE DIS
severe, with psychotic features 296.89 Bipolar II Disorder
Bipolar disorder, current episode mixed with mood-
Bipolar disorder, current episode mixed with mood-
incongruent psychotic symptoms
F31.7 Bipolar disorder, currently in remission
F31.70 Bipolar disorder, currently in remission,
F31 71 Binolar disorder in partial remission most
recent episode hypomanic
F31.72 Bipolar disorder, in full remission, most
recent episode hypomanic
F31.73 Bipolar disorder, in partial remission, most
F31 74 Binolar disorder in full remission, most
recent episode manic
F31.75 Bipolar disorder, in partial remission, most
recent episode depressed
F31.76 Bipolar disorder, in full remission, most
recent episode depressed F31 77 Binolar disorder in partial remission most
recent episode mixed
F31.78 Bipolar disorder, in full remission, most
recent episode mixed
F31.8 Other bipolar disorders
F31.81 Bipolar II disorder F31.89 Other bipolar disorder
Recurrent manic episodes NOS
F31.9 Bipolar disorder, unspecified

F33 Major depressive disorder, recurrent

recurrent episodes of depressive reaction recurrent episodes of endogenous depression recurrent episodes of major depression recurrent episodes of psychogenic depression recurrent episodes of reactive depression recurrent episodes of seasonal depressive disorder

recurrent episodes of vital depression

mood-congruent psychotic symptoms

mood-incongruent psychotic symptoms

without psychotic features

with psychotic symptoms

psychotic symptoms

remission, unspecified

psychosis

psychosis

remission

F33.0 Major depressive disorder, recurrent, mild F33.1 Major depressive disorder, recurrent,

F33.2 Major depressive disorder, recurrent severe

F33.3 Major depressive disorder, recurrent, severe

Endogenous depression with psychotic symptoms Recurrent severe episodes of major depression with

Recurrent severe episodes of major depression with

Recurrent severe episodes of major depression with

Recurrent severe episodes of psychogenic depressive

Recurrent severe episodes of psychotic depression Recurrent severe episodes of reactive depressive

F33.4 Major depressive disorder, recurrent, in

F33.40 Major depressive disorder, recurrent, in

unspecified Depression NOS Depressive disorder NOS Major depression NOS

Includes:

moderate

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3	Depressive Disorders
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F32 Major depressive disorder, single episode	296.2	DEPR PSYCH, SINGL EPISOD*
Includes:	296.20	Major Depressive Disorder, Single
single episode of agitated depression	Episode, U	Unspecified
single episode of depressive reaction	296.21	Major Depressive Disorder, Single
single episode of major depression	Episode, N	Mild
single episode of psychogenic depression	296.22	Major Depressive Disorder, Single
single episode of reactive depression	Episode, N	Moderate
single episode of vital depression	296.23	Major Depressive Disorder, Single
F32.0 Major depressive disorder, single episode,	Episode, S	Severe Without Psychotic Features
mild	296.24	Major Depressive Disorder, Single
F32.1 Major depressive disorder, single episode,	Episode, S	Severe With Psychotic Features
moderate	296.25	Major Depressive Disorder, Single
F32.2 Major depressive disorder, single episode,	Episode, I	n Partial Remission
severe without psychotic features	296.26	Major Depressive Disorder, Single
F32.3Major depressive disorder, single episode,	Episode, I	in Full Remission
severe with psychotic features	296.3	DEPR PSYCH, RECUR EPISOD*
Single episode of major depression with mood-	296.30	Major Depressive Disorder, Recurrent,
congruent psychotic symptoms	Unspecifie	ed
Single episode of major depression with mood-	296.31	Major Depressive Disorder, Recurrent,
incongruent psychotic symptoms	Mild	
Single episode of major depression with psychotic	296.32	Major Depressive Disorder, Recurrent,
symptoms	Moderate	
Single episode of psychogenic depressive psychosis	296.33	Major Depressive Disorder, Recurrent,
Single episode of psychotic depression	Severe W	ithout Psychotic Features
Single episode of reactive depressive psychosis	296.34	Major Depressive Disorder, Recurrent,
F32.4 Major depressive disorder, single episode, in	Severe W	ith Psychotic Features
partial remission	296.35	Major Depressive Disorder, Recurrent, In
F32.5 Major depressive disorder, single episode, in	Partial Re	mission
full remission	296.36	Major Depressive Disorder, Recurrent, In
F32.8 Other depressive episodes	Full Remi	ssion
Atypical depression		
Post-schizophrenic depression	296.90	Mood Disorder NOS
Single episode of 'masked' depression NOS		
F32.9 Major depressive disorder, single episode,	300.4	Dysthymic Disorder
unspecified		
Depression NOS	311	Depressive Disorder NOS
Depressive disorder NOS		

	r 55.41 Major depressive disorder, recurrent, in		
	F33.42 Major depressive disorder, recurrent, in		
	full remission		
	F33.8 Other recurrent depressive disorders F33.9 Major depressive disorder recurrent		
	unspecified		
	Monopolar depression NOS		
	F34 Persistent mood [affective] disorders		
	Affective personality disorder		
	Cycloid personality		
	Cyclothymia Cyclothymia personality		
	F34.1 Dysthymic disorder		
	Depressive neurosis		
	Depressive personality disorder		
	Neurotic depression		
	Persistent anxiety depression		
	F34.8 Other persistent mood [affective] disorders		
	r 54.9 Persistent mood [affective] disorder, unspecified		
	F39 Unspecified mood [affective] disorder		
	Affective psychosis NOS	200.0	
Anxiety Disorders	F40 Phobic anxiety disorders F40.0 Agoraphobia	300.0 300.00	ANXIETY STATES* Anxiety Disorder NOS
	F40.00 Agoraphobia, unspecified	300.01	Panic Disorder Without Agoraphobia
	F40.01 Agoraphobia with panic disorder	300.02	Generalized Anxiety Disorder
	Panic disorder with agoraphobia <b>F40.02</b> Agoraphobia without panic disorder	300.09	ANXIETY STATE NEC
	F40.02 Agor aphobia without paine disorder F40.1 Social phobias	300.20	PHOBIA NOS
	Anthropophobia	300.21	Panic Disorder With Agoraphobia
	Social anxiety disorder of childhood	300.22 Disordar	Agoraphobia Without History of Pani
	F40.10 Social phobia, unspecified F40.11 Social phobia, generalized	300.23	Social Phobia
	F41.0 Panic disorder [episodic paroxysmal		
	anxiety] without agoraphobia		
	Panic attack Panic state		
	F41.1Generalized anxiety disorder		
	Anxiety neurosis	7	
	Anxiety reaction		
	Overanxious disorder		
	F41.3Other mixed anxiety disorders		
	F41.8 Other specified anxiety disorders		
	Anxiety depression (mild of not persistent) Anxiety hysteria		
	Mixed anxiety and depressive disorder		
	F41.9 Anxiety disorder, unspecified		
	AllAlety NOS		
Obsessive-Compulsive	F42 Obsessive-compulsive disorder	300.3	Obsessive-Compulsive Disorder
and Related	Anancastic neurosis	312 30	Trichotillomenia
Trauma and Stressor-	F43 Reaction to severe stress, and adjustment	308	Acute reaction to stress
Related	disorders	300	A diustment reaction
Disorders	F43.0 Acute stress reaction	507	Aujustment reaction
	Acute reaction to stress	308	ACUTE REACTION TO STRESS*
	Combat and operational stress reaction	308.0	STRESS REACT, EMOTIONAL
	Combat fatigue	308.1	STRESS REACTION, FUGUE
	Psychic shock	308.3	Acute Stress Disorder
	F43.1 Post-traumatic stress disorder (PTSD)	308.4	STRESS REACT, MIXED DIS
	Traumatic neurosis	308.9 309	ACUTE STRESS REACT NOS ADHISTMENT REACTION*
	F45.10 Post-traumatic stress disorder, unspecified	309.0	Adjustment Disorder With Depressed
	F43. 11 Post-traumatic stress disorder acute	509.0	rajustinent Bisorder with Bepressed

	F43.2 Adjustment disorders	309.1 PROLONG DEPRESSIVE REACT
	Culture shock	300.2 ADJUST REACT/OTH EMOTION*
		200.21 G C A C D 1
	Grief reaction	309.21 Separation Anxiety Disorder
	Hospitalism in children	309.22 EMANCIPATION DISORDER
	F43.20 Adjustment disorder, unspecified	309.23 ACADEMIC/WORK INHIBITION
	F43 21 Adjustment disorder with depressed mood	309.24 Adjustment Disorder With Anxiety
	E42 22 A diastment disorder with appressed mood	200.29 A dividement Disorder With Mixed An
	F45.22 Aujustment disorder with anxiety	509.26 Aujustitetit Disoldet with Mixed All
	F43.23 Adjustment disorder with mixed anxiety	and Depressed Mood
	and depressed mood	309.29 ADJ REACT-EMOTION NEC
	F43.24 Adjustment disorder with disturbance of	309.3 Adjustment Disorder With Disturban
	conduct	Conduct
	F45.25 Adjustment disorder with mixed	309.4 Adjustment Disorder with Mixed
	disturbance of emotions and conduct	Disturbance of Emotions and Conduct
	F43.29 Adjustment disorder with other symptoms	309.8 OTHER ADJUST REACTION*
	F43.8 Other reactions to severe stress	309.81 Posttraumatic Stress Disorder
	F43.9 Reaction to severe stress, unspecified	309.82 ADJUST REACT-PHYS SYMPT
	1 iou reaction to severe stress, anspectited	200.82 ADJUST DEACT WITHDDAWAI
		200.00 ADJUST KEACT-WITHDRAWAL
		309.89 ADJUSTMENT REACTION NEC
		309.9 Adjustment Disorder Unspecified
Feeding and Eating	F50 Eating disorders	307.1 Anorexia Nervosa
Disorders	F50 00Anorevia nervosa	307.5 FATING DISORDERS NEC/NOS*
2.1.551 4015	F50.01 A porovia normosa unspecified	207.50 Eating Disorder NOC
	F50.02 America net vosa, unspecifieu	207.50 Eating Disorder NOS
	r 50.02 Anorexia nervosa, restricting type	507.51 Buiimia Nervosa
	F50.03 Anorexia nervosa, binge eating/purging	
	type	
	F50.2 Bulimia nervosa	
	Bulimia NOS	
	Uumananavia namuasa	
	F50.9 Eating disorder, unspecified	
	Atypical anorexia nervosa	
	Atypical bulimia nervosa	
Gender Dysphoria	F64 Gender identity disorders	302.5 TRANS-SEXUALISM*
Sender Dysphorm	F64.1 Conder identity disorder in adelescence and	302.50 TRANS SEVUALISM NOS
	ro4.1 Genuer lucifity disorder in adolescence and	202.50 TRANS-SEAUALISM NOS
	adultnood	302.51 IRANS-SEXUALISM, ASEXUAL
	Dual role transvestism	302.52 TRANS-SEXUAL, HOMOSEXUAL
	Transsexualism	302.53 TRANS-SEX, HETEROSEXUAL
	F64.2 Gender identity disorder of childhood	302.6 Gender Identity Disorder in Children
	F64.8 Other gender identity disorders	Gender Identity Disorder NOS
	E64.0 Condentiated disorder unspecified	202.95 Candar Identity Disorder in Adelegas
	F04.9 Genuer identity disorder, dispectited	502.85 Gender Identity Disorder in Adolesce
	Gender-role disorder NOS	or Adults
Disruptive, Impulse-	Behavioral and emotional disorders with onset	312 Disturbance of conduct, no
Control,	usually occurring in childhood and adolescence	alassukana alassifiad
and Conduct	(F90-F98)	elsewhere classified
Disorders	Codes within categories F90-F98 may be used	312.3 IMPULSE CONTROL DIS NEC*
	regardless of the age of a nationt. These disorders	312.30 Impulse-Control Disorder NOS
	regardless of the age of a patient. These disorders	
	generally have onset within the childhood or	212 91 Conduct Discorder Childhood Orest
	adolescent years, but may continue throughout life or	212.92 Conduct Disolder, Childhood-Onset
	not be diagnosed until adulthood	512.82 Conduct Disorder, Adolescent-Onset
	F91 Conduct disorders	312.89 Conduct Disorder, Unspecified Onset
	F91.0 Conduct disorder confined to family context	312.9 Disruptive Behavior Disorder NOS
	F91 1 Conduct disorder childhood onset type	
	Unsocialized conduct disorder	
	Unsocialized conduct disorder	312 20 SOCIAL CONDUCT DIS UNED
	Conduct disorder, solitary aggressive type	212.20 SOCIAL CONDUCT DIS-UNSP
	Unsocialized aggressive disorder	512.21 SUCIAL CONDUCT DIS-MILD
	F91.2 Conduct disorder, adolescent-onset type	312.22 SOCIAL CONDUCT DIS-MOD
	Socialized conduct disorder	312.23 SOCIAL CONDUCT DIS-SEV
	Conduct disorder aroun type	312.3 IMPULSE CONTROL DIS NEC*
	E01.2 Oppositional defined direct	312.30 Impulse-Control Disorder NOS
	r91.3 Oppositional deliant disorder	212.21 Dathelesisel Combline
	F91.8 Other conduct disorders	512.51 Fatiological Gamoling
	F91.9 Conduct disorder, unspecified	312.32 Kleptomania
	Behavioral disorder NOS	312.33 Pyromania
	Conduct disorder NOS	312.34 Intermittent Explosive Disorder
	Diamatica habitati habitati habitati	312 35 ISOLATED EXPLOSIVE DIS
	Distuptive behavior disorder NOS	STERE IN LOUIVE DID
	F63 Impulse disorders	
	F63 Impulse disorders Excludes2:	
	F63 Impulse disorders Excludes2: habitual excessive use of alcohol or psychoactive	313.81 Oppositional Defiant Disorder
	F63 Impulse disorders Excludes2: habitual excessive use of alcohol or psychoactive substances (E10-E10)	313.81 Oppositional Defiant Disorder
	F63 Impulse disorders Excludes2: habitual excessive use of alcohol or psychoactive substances (F10-F19)	313.81 Oppositional Defiant Disorder
	F63 Impulse disorders Excludes2: habitual excessive use of alcohol or psychoactive substances (F10-F19) impulse disorders involving sexual behavior (F65)	313.81 Oppositional Defiant Disorder
	F63 Impulse disorders Excludes2: habitual excessive use of alcohol or psychoactive substances (F10-F19) impulse disorders involving sexual behavior (F65) F63.0 Pathological gambling	313.81 Oppositional Defiant Disorder
	F63 Impulse disorders Excludes2: habitual excessive use of alcohol or psychoactive substances (F10-F19) impulse disorders involving sexual behavior (F65) F63.0 Pathological gambling Compulsive gambling	313.81 Oppositional Defiant Disorder

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304.10	BARBITURATE DEPENDENCE*
D 1	Sedative, Hypnotic, or Anxiolytic
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304.11 304.12	BARBITURAT DEPEND-CONTIN
304.12	BARBITURAT DEPEND-EPISOD BARBITURAT DEPEND-REMISS
304.2	COCAINE DEPENDENCE*
304.20	Cocaine Dependence
304.21	COCAINE DEPEND-CONTIN
304.22	COCAINE DEPEND-EPISODIC
304.23	CANNABIS DEPENDENCE*
304.30	Cannabis Dependence
304.31	CANNABIS DEPEND-CONTIN
304.32	CANNABIS DEPEND-EPISODIC
304.33	CANNABIS DEPEND-REMISS
304.4	Amphetamine Dependence
304.41	AMPHETAMIN DEPEND-CONTIN
304.42	AMPHETAMIN DEPEND-EPISOD
304.43	AMPHETAMIN DEPEND-REMISS
304.5	HALLUCINOGEN DEPENDENCE*
304.50	HALLUCINOGEN DEP-CONTIN
304.52	HALLUCINOGEN DEP-EPISOD
304.53 🧹	HALLUCINOGEN DEP-REMISS
304.6	DRUG DEPENDENCE NEC*
304.60 Depender	Innaiant Dependence or Phencyclidine
304.61	DRUG DEPEND NEC-CONTIN
304.62	DRUG DEPEND NEC-EPISODIC
304.63	DRUG DEPEND NEC-IN REM
304.7	OPIOID/OTHER DRUG DEPEND*
304.70 304.71	OPIOID/OTHER DEP-UNSPEC
304.72	OPIOID/OTHER DEP-EPISOD
304.73	OPIOID/OTHER DEP-REMISS
304.8	COMB DRUG DEPENDENCE NEC*
304.80	Polysubstance Dependence
304.81 304.82	COMB DRUG DEP NEC-CONTIN
304.83	COMB DRUG DEP NEC-REMISS
304.9	DRUG DEPENDENCE NOS*
304.90	Other (or Unknown) Substance
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304.91	DRUG DEPEND NOS-CONTIN
304.92 304.92	DRUG DEPEND NOS-EPISODIC
304.93	DVOO DELEND NO9-KEMII99

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3	305 NONDEPENDENT DRUG ABUSE*
4	305.0 ALCOHOL ABUSE*
5	305.00 Alcohol Abuse
5	305.01 ALCOHOL ABUSE-CONTINUOUS
0	305.02 ALCOHOL ABUSE-EPISODIC
/	305.05 ALCOHOL ABUSE-IN KEMISS 305.1 Nicotine Denendence
8	305.2 CANNABIS ABUSE*
9	305.20 Cannabis Abuse
10	305.21 CANNABIS ABUSE-CONTIN
11	305.22 CANNABIS ABUSE-EPISODIC
12	305.2.5 CANNABIS ABUSE-IN REMISS 305.3 HALLUCINOGEN ABUSE*
13	305.30 Hallucinogen Abuse
14	305.31 HALLUCINOG ABUSE-CONTIN
15	305.32 HALLUCINOG ABUSE-EPISOD
16	305.33 HALLUCINOG ABUSE-REMISS
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10	305.41 BARBITURATE ABUSE-CONTIN
10	305.42 BARBITURATE ABUSE-EPISOD
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20	305.5 OPIOID ABUSE* 305.50 Opioid Abuse
21	305.51 OPIOID ABUSE-CONTINUOUS
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24	305.6 COCAINE ABUSE*
25	305.60 Cocaine Aduse 305.61 COCAINE ABUSE-CONTINUOUS
26	305.62 COCAINE ABUSE-EPISODIC
27	305.63 COCAINE ABUSE-IN REMISS
28	305.7 AMPHETAMINE ABUSE*
29	305.70 Amphetamine Abuse
30	305.71 AMPHETAMINE ABUSE-CONTIN 305.72 AMPHETAMINE ABUSE-EPISOD
31	305.73 AMPHETAMINE ABUSE-REMISS
27	305.8 ANTIDEPRESSANT ABUSE*
52 22	305.80 ANTIDEPRESS ABUSE-UNSPEC
33	305.81 ANTIDEPRESS ABUSE-CONTIN 305.82 ANTIDEPRESS ABUSE-EDISOD
34	305.83 ANTIDERRESS ABUSE-REMISS
35	305.9 DRUG ABUSE NEC/NOS*
36	305.90 Phencyclidine Abuse, Inhalant Abuse,
37	Other (or Unknown) Substance Abuse
38	305.91 DRUG ABUSE NEC-CONTIN 305.92 DRUG ABUSE NEC-EPISODIC
39	305.92 DRUG ABUSE NEC-IN REMISS
40	
41	291.3 Alcohol-Induced Psychotic Disorder, With
42	Hallucinations $201.4$ PATHOLOGIC ALCOHOLINITOY
43	291.4 PATHOLOGIC ALCOHOL INTOX 291.5 Alcohol-Induced Psychotic Disorder With
44	Delusions
45	291.8 ALCOHOLIC PSYCHOSIS NEC*
46	291.81 Alcohol Withdrawal
40	291.82 Alcohol-Induced Sleep Disorder 201.89 Alcohol-Induced Mood Disorder
47 40	Alcohol-Induced Sexual Dysfunction: Alcohol-
4ð	Induced Sleep Disorder; Alcohol-Induced Anxiety
49	Disorder
50	291.9 Alcohol-Related Disorder NOS
51	292 DKUG PSYCHOSES* 202.0 Amphetamine Cocaine Nicotine Opioid
52	or Other (or Unknown)] Withdrawal: Sedative.
53	Hypnotic or Anxiolytic Withdrawal
54	292.1 DRUG PARANOID/HALLUCINOS*
55	292.11 Amphetamine, Cannabis, Cocaine,
56	rtailucinogen, innaiani, Opioid, rhencyclidine, or Other (or Unknown) Substance-Induced Psychotic
57	Suice (or Shikhown) Substance-Induced I Sycholic
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50	For peer review only - http://bmiopen.bmi.com/site/about/quidelines.xhtml
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Disorder, With Delusions; Sedative, Hypnotic or Anxiolytic-Induced Psychotic Disorder, With Delusions

292.12 Amphetamine, Cannabis, Cocaine, Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown)] Substance-Induced Psychotic Disorder, With Hallucinations; Sedative-, Hypnoticor Anxiolytic-Induced Psychotic Disorder, With Hallucinations

( Pe 292. Coca. Pheney Related . Anxiolytic 292.2 PATHOLOGIC DRUG INTOX OTHER DRUG MENTAL DIS\* 292.8 Amphetamine, Cannabis, Cocaine, Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown)] Substance Intoxication Delirium; Sedative, Hypnotic or Anxiolytic Intoxication or Withdrawal Delirium Inhalant or Other (or Unknown) Substance-Induced Persisting Dementia; Sedative-, Hypnotic- or Anxiolytic-Induced Persisting Dementia Other (or Unknown)] Substance-Induced Persisting Amnestic Disorder; Sedative-, Hypnoticor Anxiolytic-Induced Persisting Amnestic Disorder Amphetamine, Cocaine, Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown) Substance-Induced Mood Disorder; Sedative-, Hypnotic- or Anxiolytic-Induced Mood

Amphetamine, Caffeine, Cocaine, Opioid, or Other (or Unknown) Substance-Induced Sleep Disorder, Sedative-, Hypnotic- or Anxiolytic-Induced

Substance-Induced Anxiety Disorder, Sexual Disfunction, Sleep Disorder, or Intoxication (Refer to the DSM-IV-TR); Hallucinogen Persisting

Amphetamine, Caffeine, Cannabis, Cocaine, Hallucinogen, Inhalant, Nicotine, Opioid, Phencyclidine, or Other (or Unknown) Substance-Related Disorder NOS; Sedative-, Hypnotic- or Anxiolytic-Related Disorder NOS

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	Ite m No.	STROBE items	Location in manuscript where items are reported	RECORD items	Location in manuscript where items are reported
Title and abstra	ct				-
		<ul> <li>(a) Indicate the study's design with a commonly used term in the title or the abstract</li> <li>(b) Provide in the abstract an informative and balanced summary of what was done and what was found</li> </ul>	page 2 - ABSTRACT, , "Data for this retrospective cohort"	<ul> <li>RECORD 1.1: The type of data used should be specified in the title or abstract. When possible, the name of the databases used should be included.</li> <li>RECORD 1.2: If applicable, the geographic region and timeframe within which the study took place should be reported in the title or abstract.</li> <li>RECORD 1.3: If linkage between databases was conducted for the study, this should be clearly stated in the title or abstract.</li> </ul>	page 2- ABSTRACT, , in-text reference: "were derived from administrative data sources " and page 2- ABSTRACT, in-text reference: "in Ontario, Canada" page 2- ABSTRACT, in-text reference: "All patient information was linked anonymously across databases using encrypted ten-

					digit health card numbers."
Introduction,					
Background rationale	2	Explain the scientific background and rationale for the investigation being reported	page 4 to 5 - INTRODUCTION,		
Objectives	3	State specific objectives, including any pre-specified hypotheses	page 5- INTRODUCTION, in-text reference: "the goal of this study was to evaluate how UDS frequency impacts treatment retention in OAT in Ontario."		
Methods	1	1		1	
Study Design	4	Present key elements of study design early in the paper	page 5 - METHODS, in-text reference: "Data for this retrospective cohort study"	2001	
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	page 5 to 6 - METHODS		
Participants	6	(a) Cohort study - Give the eligibility criteria, and the sources and methods of	Page 6 - METHODS, in-text reference: " <i>We</i>	RECORD 6.1: The methods of study population selection (such as codes or algorithms used to	Page 6 and Figure 1 - METHODS,

		selection of participants. Describe methods of follow- up <i>Case-control study</i> - Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> - Give the eligibility criteria, and the sources and methods of selection of participants <i>(b) Cohort study</i> - For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> - For matched studies, give matching criteria and the number of controls per case	excluded all patients" n/a	identify subjects) should be listed in detail. If this is not possible, an explanation should be provided. RECORD 6.2: Any validation studies of the codes or algorithms used to select the population should be referenced. If validation was conducted for this study and not published elsewhere, detailed methods and results should be provided. RECORD 6.3: If the study involved linkage of databases, consider use of a flow diagram or other graphical display to demonstrate the data linkage process, including the number of individuals with linked data at each stage.	Page 6, in-text reference: <i>"The</i> <i>Ontario Drug</i> <i>Benefit"</i> <i>n/a</i> Figure 1
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.	<b>Page 7 -</b> METHODS,	RECORD 7.1: A complete list of codes and algorithms used to classify exposures, outcomes, confounders, and effect modifiers should be provided. If these cannot be reported, an explanation should be provided.	<b>Page 7 -</b> METHODS,
Data sources/ measurement	8	For each variable of interest, give sources of data and	<b>Page 6 -</b> METHODS		
Disc		details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group			
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Blas	9	address potential sources of bias	<i>n/a</i>		
Study size	10	Explain how the study size was arrived at	Figure 1		
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	Page 7 and 8- MEHTODS		
Statistical methods	12	(a)Describe all statistical methods, including those used to control for confounding	Page 8- MEHTODS, in-text reference: "Descriptive statistics were calculated"	200	
		(b) Describe any methods used to examine subgroups and interactions	n/a	1 J	
		(c) Explain how missing data were addressed	page 6 - METHODS, in-text reference: "and those with missing"		

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		<ul> <li>(d) <i>Cohort study</i> - If applicable, explain how loss to follow-up was addressed</li> <li>(e) Describe any sensitivity analyses</li> </ul>			
Data access and cleaning methods				RECORD 12.1: Authors should describe the extent to which the investigators had access to the database population used to create the study population.	Page 5- METHODS, "These data were obtained"
			revie	RECORD 12.2: Authors should provide information on the data cleaning methods used in the study.	page 6 - METHODS, in- text reference: "and those with missing"
Linkage				RECORD 12.3: State whether the study included person-level, institutional-level, or other data linkage across two or more databases. The methods of linkage and methods of linkage quality evaluation should be provided.	page 5 and 6 - METHODS, in- text reference: <i>"Patient-</i> <i>level"</i>
Results			·		
Participants	13	(a)Report the numbers of individuals at each stage of the study ( <i>e.g.</i> , numbers potentially eligible, examined for eligibility, confirmed	Figure 1	RECORD 13.1: Describe in detail the selection of the persons included in the study ( <i>i.e.</i> , study population selection) including filtering based on data quality,	Figure 1

		<ul> <li>eligible, included in the study, completing follow-up, and analysed)</li> <li>(b)Give reasons for non- participation at each stage.</li> <li>(c) Consider use of a flow diagram</li> </ul>		data availability and linkage. The selection of included persons can be described in the text and/or by means of the study flow diagram.	
Descriptive data	14	<ul> <li>(a)Give characteristics of study participants (<i>e.g.</i>, demographic, clinical, social) and information on exposures and potential confounders</li> <li>(b) Indicate the number of participants with missing data for each variable of interest</li> </ul>	Page 8- RESULTS, in-text reference: "There were significant differences between" page 6 - METHODS, in-text reference: "and those with missing"		
Outcome data	15	Cohort study - Report numbers of outcome events or summary measures over time <i>Case-control study</i> - Report numbers in each exposure category, or summary measures of exposure <i>Cross-sectional study</i> - Report numbers of outcome events or summary measures	Page 9 and 10 - RESULTS, in-text reference: "As shown in Table 2"		

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included	RESULTS, page 5, in-text reference: <i>"As shown in Table</i> 2" and Table 2		
Other analyses	17	Report other analyses done— e.g., analyses of subgroups and interactions, and sensitivity analyses	n/a		
Discussion					
Key results	18	Summarise key results with reference to study objectives	Page 10 and 11 - DISCUSSION, in- text reference: "The study sought to evaluate"		
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Page 12 - DISCUSSION, in- text reference: "Some limitations in the current study"	RECORD 19.1: Discuss the implications of using data that were not created or collected to answer the specific research question(s). Include discussion of misclassification bias, unmeasured confounding, missing data, and changing eligibility over time, as they pertain to the study being reported.	Page 12 - DISCUSSION, in-text reference: "Some limitations in the current study"
Interpretation	20	Give a cautious overall interpretation of results	Page 12 an 13 - CONCLUSION,		

		considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence			
Generalisabilit y	21	Discuss the generalisability (external validity) of the	Page 12 and 13 - CONCLUSION		

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# Evaluating the association between urine drug screening frequency and retention in opioid agonist treatment in Ontario, Canada: A Retrospective Cohort Study

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**Title:** Evaluating the association between urine drug screening frequency and retention in opioid agonist treatment in Ontario, Canada: A Retrospective Cohort Study

Running Title: Urine drug screen frequency and OAT retention

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# ABSTRACT

Objective: The objective of this study was to evaluate how urine drug screening frequency is associated with retention in opioid agonist treatment (OAT).

Methods: Data for this retrospective cohort study of 55,921 adults in OAT in Ontario, Canada, were derived from administrative sources between January 1, 2011, and December 31, 2015. All patient information was linked anonymously across databases using encrypted health card numbers. Descriptive statistics were calculated for comparing urine drug screening frequency groups using standardized differences (d) where d less than 10% indicated a statistically significant difference. A logistic regression model was then used to calculate odds ratios (aOR) adjusting for baseline covariates, including sex, age, location of residence, income quintile, mental disorders, HIV status and deep tissue infections.

Results: Over 70 percent of the cohort had four or more urine drug screens per month (weekly or more UDS). Significant associations were observed between urine drug screening frequency and one-year treatment retention in OAT bi-weekly (adjusted Odds Ratio (aOR) = 3.20, 95% confidence interval (CI) 2.75-3.75); weekly urine drug screening (aOR = 6.86, 95% CI, 5.88-8.00) and; more than weekly (aOR = 8.03, 95% CI, 6.87-9.38) using the monthly or less groups as the reference.

Conclusion: This study identified an association between weekly urine drug screening and oneyear treatment retention in OAT. There is an active discussion within Canada about the utility of urine drug screening. The lack of evidence for the impact of UDS on retention has left it open to some to argue they simply provide a barrier to patient engagement. Therefore it is timely of this study to demonstrate that more frequent urine testing is not associated with a reduction in treatment retention.

# STRENGTHS AND LIMITATIONS OF THIS STUDY

- There is the possibility of data entry and reporting errors associated with using administrativelevel data.
- There is potential for unmeasured confounding, including confounding related to polysubstance use, social and interpersonal factors and clinical characteristics due to our study only having access to routinely collected data.
- In this study, analyze OAT (methadone and buprenorphine/naloxone) therefore, we did not adjust for medication type which has been shown to potentially impact retention.

- Some expert opinions have suggested that routine use of urine toxicology testing reinforces a • power dynamic and invites shame, stigma and judgment. We were not able to account for such factors in our analysis.
- e whether the i. . owever the high level . . weights against this being a This study cannot determine whether the requirement for UDS is a barrier to potential patients • ever engaging in care, however the high level of treatment engagement in Ontario compared to other jurisdictions weighs against this being a substantial factor from a public health

perspective

### INTRODUCTION

An epidemic of opioid use disorder (OUD) and deaths related to opioid poisoning has emerged across Canada in last decade (1-5). Fortunately, OUD is treatable with Opioid Agonist Treatment (OAT), including methadone and buprenorphine/naloxone. Research has shown that OAT is the most effective treatment to reduce mortality and hospitalization rates, decrease the use of opioids and other substances, lower the transmission of HIV, hepatitis C and other infectious diseases, and improve unemployment rates and other social factors (2, 6-9). Despite its known benefits, uptake and effective use of OAT by general practitioners is relatively low. Little training is given to medical professionals about the complexity and continuum of care necessary for the successful treatment of individuals with OUD (10). Additionally, treatment discontinuation and cycling are very common (7, 8); and changes in opioid tolerance while on OAT (11) are contributing factors that lead to an exceptionally high risk of overdose mortality following discontinuation (2, 12-14). Sustained engagement in OAT, ideally for one year or more (15-17), is thus critical to realizing the protective benefits of this vital tool to address the opioid overdose crisis.

Patients in Ontario typically start treatment in a specialized addiction clinic for observed daily dosing for both methadone and buprenorphine/naloxone. Patients can receive increasing number of take home doses, based on the assessment of the physician in determining their level of functional stability (cessation of other opioid use, reduced problematic use of other substances, stable housing, stable physical and mental health, along with other factors.). Increasing or decreasing numbers of take home doses are linked to urine screening (UDS) results and frequency in an explicit contingency management schedule such that patients who are in the process of gradually increasing their level of stability, and thus number of weekly take home doses, will have

more frequent urine testing (18, 19). These take-home privileges are increased based on appointment attendance and consistently negative UDS for opioids, cocaine, stimulants, and other substances. In Ontario, patients enrolled in OAT at specialized addiction clinics will achieve six take-home doses after at least eight months of negative UDS, which is equivalent to visiting the clinic once per week for a UDS and assessment. Within this general context there is scope for some variability in how this approach is applied by individual physicians. Some physicians place less emphasis on this contingency management approach or rely less on UDS to determine which patients receive increased numbers of take home doses. Some physicians may also be concerned that frequent UDS acts as a deterrent to treatment retention which counteracts the effectiveness of contingency management in reducing other drug use and improving retention. It is important to note that not all UDS collection events are associated with a physician appointment. Many patients are attending the clinic more often than weekly and can leave samples during the visit to receive medication. So the frequency of urine collection does not add an additional burden to reintegration over and above the burden of supervised ingestion of medication.

The cost of UDS billing has been the source of debate in Ontario (17, 18), resulting in recent UDS billing fee cuts (20) and recommendations for less frequent screening (21). Ideal UDS frequency is therefore critical to treat OUD effectively in a specialized OAT setting. However, a recent review conducted by McEachern et al. concluded that there is a critical gap in peer-reviewed evidence regarding UDS frequency and health outcomes for individuals in OAT. Despite this lack of evidence, the OAT guidelines in Ontario have been recently replaced with new national guidelines which recommend drug screening only once per month, even when a much higher frequency of UDS is currently being conducted. Furthermore, federal and provincial guidelines are inconsistent. They often rely on expert opinion and politically driven reasons rather than peer-

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reviewed evidence (22). In Ontario, there has been some variability in physician practice in terms of frequency of UDS and application of contingency management practices with respect to linking carry doses to drug-free urines. The study is meant to look at whether this variability impacts patient outcomes and in particular whether more frequent testing represents a barrier to retention, in OAT in Ontario.

#### **METHODS**

### Study Design and setting

Data for this retrospective cohort study of 55,921 adults with OUD in Ontario were derived from three databases that routinely collect publically funded health care services between January 1, 2011, and December 31, 2015. These data were obtained through the Data Analytics Services (DAS) department at ICES. ICES is a not-for-profit research organization that gathers populationbased health and social data from Ontario's publicly funded health services to generate knowledge (23). The study data were accessed remotely using a secure server. Patient-level information was linked anonymously across databases using encrypted ten-digit health card numbers. The linking protocol is used routinely for health system research in Ontario (24-26). The Laurentian University Research Ethics Board provided ethical approval for this study under project number 6009752. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were used to write this manuscript (27).

The Ontario Drug Benefit Plan database using drug identification numbers and the Ontario Health Insurance Plan (OHIP) database physician billing codes including OAT monthly management codes (K682, K683, and K684), visit/consultation codes (A680 and A957) and, point of care testing codes (G040, G041, G042 or G043) were used to define the primary study cohort. All patients who initiated OAT for the first time within the study time frame in Ontario were

included. First-time OAT was defined as no previous history of treatment in the year before the first treatment episode. It is common for OAT patients to cycle between treatment and relapse (28, 29). Studies have demonstrated that multiple treatment attempts are correlated with a higher likelihood of positive outcomes (30-32). We chose only to include first-time OAT patients to eliminate bias related to numerous treatment attempts.

We excluded all patients under 15 years old, patients who were not eligible for OHIP, non-Ontario residents, and those with missing age, gender, and postal codes used for identification and linking across databases. We then combined patients identified from ODB, patients identified from OHIP, and patients identified in both databases to create the primary study cohort. See Figure 1.

#### **Patient and Public Involvement**

There was no patient and public involvement involved in the design, conduct, reporting or 27.0 dissemination of our research.

#### **Study variables**

Baseline statistics were used to describe the study population and included age groups (18) to 34, 35 to 64, 65+), sex (male vs female), income quintile (1 - highest, 2, 3, 4, 5), and location of residence, missing n = 3 (northern/rural, northern/urban, southern/rural, southern/urban). all extracted from the RPDB database. Comorbidity variables included: HIV status (positive vs negative), Deep tissue infections (yes vs no), mental health conditions (yes vs no). We defined patients with mental disorders group using OHIP database diagnostic codes. The following codes are outlined in Appendix A.

### **UDS frequency**

UDS billing information, including the following OHIP fee codes: G040, G041, G042, G043, were extracted from the OHIP database. Patients were assigned to one of four groups: Less than once in 30 days, bi-weekly (>1 to <=3 in 30 days), weekly (>3 to <=5 in 30 days) more than weekly (>5 in 30 days). The classification of groups was decided based on the distribution of the means of the UDS in 30 days.

#### **One-year treatment retention**

One-year treatment retention is a common measure used in several studies as a positive treatment outcome (15, 17, 33-37). After their first treatment episode, all patients were followed to a maximum follow-up date of December 31, 2016. Continuous OAT (one-year treatment retention) was assessed based on prescription refill data (from the Ontario Drug Benefit database). The thirty-day cut-off was chosen based on this interval has been well-established in this field of research (15, 33, 36). The database used for medication dispensing in this study might not capture doses administered in a hospital or provincial correctional setting. However, in Ontario, patients will typically continue to receive methadone or buprenorphine in these settings. Since most hospital admissions or provincial incarcerations are less than 30 days, this approach allows the analysis to be conducted without misinterpreting such events as treatment interruption.

#### **Statistical Analysis**

Descriptive statistics were calculated for all UDS groups and used standardized differences (d) where d less than 10% indicated a clinically relevant difference. Standardized differences are not affected by sample size. Therefore, standard differences can be used to compare the balance in measured variables between exposure groups in the study (38).

A logistic regression model was then used to calculate odds ratios for the association between UDS frequency and one-year treatment retention. We adjusted for baseline covariates in the models, including sex, age, location of residence, income quintile, mental disorders, HIV status and deep tissue infections. All data were analyzed using SAS Version 9.4 (39).

### RESULTS

Figure 2 shows that between January 2011 and December 2015, a total of 55,921 individuals were included in the study. Of these, 6,252 (11.20%) had UDS monthly or less, 9,495 (16.98%) had bi-weekly UDS, 24,948 (44.61%) had weekly UDS, and 15,226 (27.23%) had UDS six or more times in 30 days.

There were significant differences between the UDS frequency groups. Notably, we observed that the proportion of younger patients (aged 15 to 34) increased and that the proportion of older patients (55 to 65+) decreased with increased UDS frequency. Similarly, the proportion of northern rural patients increased, and the proportion of southern rural patients decreased with higher UDS frequency. Other demographic characteristics at OAT initiation are shown in Table 1.

Table 1: Summary statistics of individuals with OUD by UDS	frec	luency group

			Ur	ine Drug	g lest Frequency	<u>v</u>		
	Monthly or		<b>Bi-Weekly</b>		Weekly		More than	
	less						weekly	
	n=6,252	d	n=9,495	d	n= 24,948	d	n =15,226	
	(11.20)		(16.98)		(44.61)		(27.23)	d
Sex		0.02		0.03		0.09		0.12*
Female	2,268 (36.28)		3,217 (33.88)		8,217 (32.94)		5,992 (39.35)	
Male	3,984 (63.72)		6,278 (66.12)		16,731 (67.06)		9,234 (60.65)	
Age		0.64*		0.36*		0.24*		0.40*
15 to 24	720 (11.20)		1,064 (11.21)		4,716 (18.90)		3,741 (24.57)	
25 to 34	1,358 (21.72)		2,656 (27.97)		9,086 (36.42)		5,906 (38.79)	
35 to 44	1,186 (18.967)		2,249 (23.69)		5,573 (22.34)		3,087 (20.27)	
			(22, 02)		4 161 (16 68)		1 947 (12 79)	

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2									
3 1	55 to 64	887 (14.19)		1,004 (10.57)		1,289 (5.17)		505 (3.32)	
4 5	65 +	686 (10.97)		245 (2.58)		123 (0.49)		40 (0.26)	
6 7	<b>Geography</b>		0.11*		0.29*		0.22*		0.45*
, 8 9	Rural Northern	366 (5.85)		239 (2.52)		828 (3.32)		1,400 (9.19)	
10 11	Urban Southern	445 (7.12)		441 (4.64)		1,753 (7.03)		2,655 (17.44)	
12 13	Rural Southern	457 (7.31)		672 (7.08)		2,107 (8.45)		1,462 (9.60)	
14 15	Urban	4,984 (79.72)		8,143 (85.76)		20,260 (81.21)		9,709 (63.77)	
16	Income		0.10		0.11*		0.05		0.15*
17	1 (lowest)	1,999 (31.97)		2,847 (29.98)		8,293 (33.24)		5,953 (39.10)	
18	2	1,348 (21.56)		2,206 (23.23)		5,644 (22.62)		3,301 (21.68)	
19 20	3	1,089 (17.42)		1,777 (18.72)		4,586 (18.38)		2,520 (16.55)	
20 21	4	956 (15.29)		1,497 (15.77)		3,755 (15.05)		1,884 (12.37)	
22	5	860 (13.76)		1,168 (12.30)		2,670 (10.70)		1,568 (10.30)	
23	Mental								
24	Health	5,544 (88.68)	0.06	8,426 (88.74)	0.06	21,472 (86.07)	0.05	13,234 (86.92)	0.01
25	HIV								
26	positive	59 (0.94)	0.03	111 (1.17)	0.06	158 (0.63)	0.02	83 (0.55)	0.03
27	Deep								
28	Tissue		0 1 4 4		0.00		0.07		
29 20	Infection	344 (5.50)	0.14*	420 (4.42)	0.09	591 (2.37)	0.07	321 (2.11)	0.08
20 21	d = sta	ndardized differen	се						
	· · · · · ·								

\*statistically significant

As shown in Table 2, a logistic regression model was conducted to determine the association between UDS frequency and one-year treatment retention. A total of 250 (4.00%) of patients who were retained for one year had less than one UDS in 30 days, 1,398 (14.72%) had bi-weekly UDS, 6,185 (24.79%) had weekly UDS, and 4,153 (27.28%) had more than weekly UDS. UDS frequency was positively associated with one-year treatment retention within our cohort. Compared to patients who had less than monthly UDS, bi-weekly UDS was associated with an increase in one-year treatment retention (adjusted Odds Ratio (aOR) = 3.20, 95% confidence interval (CI) 2.75-3.75); weekly UDS was associated with an increase in one-year treatment retention (aOR = 6.86, 95% CI, 5.88-8.00) and; more than weekly UDS was associated with an increase in one-year treatment retention (aOR = 8.03, 95% CI, 6.87-9.38).

		One-year				
UDS Frequency per Month	Patients (N)	Retention, N (%)	Unadjusted OR	Unadjusted 95% CI	Adjusted OR	Adjusted 95% CI
Less than monthly*	6,252	250 (4.0)				
Bi-weekly	9,495	1,398 (14.72)	3.18	2.71-3.72	3.20	2.75-3.75
Weekly	24,948	6,185 (24.79)	6.07	5.22-7.05	6.86	5.88-8.00
More than weekly	15,226	4,153 (27.28)	6.90	5.93-8.03	8.03	6.87-9.38
*reference group						

Table 2: Urine Drug Screening Frequency and One-year Treatment Retention

\*reference group UDS - Urine drug screening OR – Odds Ratio aOR - Adjusted Odds Ratio 95% CI – 95% confidence interval

### DISCUSSION

The study sought to evaluate the relationship between the frequency of UDS tests and oneyear retention in OAT. Drawing on longitudinal data from publically funded health administrative data in Ontario, Canada, it was observed that more frequent UDS tests are associated with a significantly increased likelihood of one-year treatment retention in OAT.

We found a certain degree of heterogeneity in the UDS frequency groups. UDS frequency can vary based on patient drug use, treatment compliance, time in treatment, some physician discretion. Since in Ontario UDS is part of contingency management, the lowest frequency of urine testing would typically be seen in two groups of patients. First, less frequent testing is done for those patients who are chronically unstable (most often due to sustained use of other drugs, homelessness, or ineffectively treated mental health problems or a combination of these) and thus have the frequency or urine testing reduced as they are not engaged in demonstrating increasing levels of stability. Secondly, those patients who have demonstrated sustained periods of stability, including cessation of problematic use of other substances, will have observed dosing and urine testing less frequently and sufficient only to monitor for continued stability.

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In our data we found that younger patients and those living in northern rural areas had more frequent UDS tests. This observation is likely reflective of physician and patient factors which may account for the higher frequency of urine testing in the Northern Ontario patient group. The physicians practicing in this geographic area may place more emphasis on adherence to the contingency management schedule in determining frequency of both UDS and take home doses. Alternatively, given the longer distances between patients and providers (35), the patients in this area may be more motivated to engage in the process of increased UDS in the short-term in order to obtain less frequent testing and higher frequency take home doses in the long-term. It is worth noting that our repeated observation in earlier papers (34, 35, 40) of higher treatment retention in the northern Ontario geographic area and the higher frequency of testing in this geographic area demonstrated in this paper is consistent with the overall relationship between UDS frequency and retention reported here.

In this study, when evaluating one-year treatment retention as the primary outcome, we accounted for variations in UDS frequency by adjusting for baseline patient characteristics. Compared to monthly UDS, increased frequency of urine screening was associated with a higher likelihood of one-year treatment retention in OAT. Importantly, we observed that the more frequent the UDS, the stronger the association was with one-year treatment retention. Research has shown that one-year treatment is correlated with various positive health outcomes for OAT patients, including reduced rates of drug use, hospitalization, criminal activity, and mortality (15,

33). Therefore, it is often used as a marker for a positive treatment outcome.

In our review of the literature, we found that only one other study has examined the impact of UDS frequency on OAT patient outcomes. Our search was consistent with a recent critical

review of the literature by McEachern et al., which only identified one full-text report that met their search criteria studies focusing on individuals with substance use disorders and comparing UDS frequency to evaluate health outcomes. The other study evaluating UDS frequency was a three-arm randomized open-label trial (N = 53) by Chutuape et al.. The main intervention was random weekly or monthly testing, which was associated with higher retention rates over time, compared to no urine testing or contingency management (41). Although there is minimal research on UDS frequency and OAT outcomes, our study and the other study by Chutuape et al. were consistent in demonstrating the positive effect of more frequent UDS on retention. Additional research is required to continue to add to this evidence base to provide clinicians with clearer, consistent guidelines on UDS frequency across Canada.

Some limitations in the current study require consideration. First, we acknowledge that this study cannot determine whether the requirement for UDS is a barrier to potential patients ever engaging in care. However the high level of treatment engagement in Ontario compared to other jurisdictions (for example US where the large majority of those with OUD have never been prescribed OAT) (42) weighs against this being a substantial factor from a public health perspective. Second, there is the possibility of data entry and reporting errors associated with using administrative-level data. Third, the data is collected for physician remuneration and funding therefore, its initial intention is not for research. Fourth, although we considered various factors associated with treatment retention, there is potential for unmeasured confounding, including confounding related to other substance use (36, 43, 44), social and interpersonal factors (45-48), the lack of patient descriptors that assess addiction severity and clinical characteristics (49, 50) due to our study only having access to routinely collected data. Fifth, in this study, methadone and buprenorphine/naloxone patients were grouped due to low frequency of buprenorphine/naloxone

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prescriptions during our study period. Research has shown that OAT medication type can impact retention. Therefore further study is needed to compare UDS frequency between methadone and buprenorphine/naloxone patients. Finally, some expert opinions have suggested that routine use of urine toxicology testing reinforces a power dynamic and invites shame, stigma and judgment. We were not able to account for such factors in our analysis (51).

### CONCLUSION

In summary, our study identified a significant association between the frequency of UDS and one-year treatment retention in OAT. There is an active discussion within Canada about the utility of UDS with some practitioners arguing that they should not be collected at all, or very rarely while others collect them frequently and tie them to increased take home doses under contingency management. The lack of evidence for the impact of UDS on retention has left it open to some to argue they simply provide a barrier to patient engagement. Therefore, it is timely of this study to demonstrate that more frequent urine testing is not associated with a reduction in treatment retention. The results can be generalized to any other locations with similar OAT regulations. This study adds to previous research showing the association between UDS frequency and positive OAT treatment outcomes, and more research is needed to strengthen the evidence base for UDS frequency in OAT.

# FIGURE LEGEND

Figure 1: Flow Chart Outlining Data Build Including Linkages

Figure 2: Proportion of individuals retained for one year by UDS frequency groups

tor occurrent only

2 3	LIST OF ABBREVIATIONS
4	
5 6	ACM All-Cause Mortality
7 8	<b>aOR</b> Adjusted Odds Ratio
9 10	CI Confidence Interval
11	CIHI Canadian Institute for Health Information
13	d Standardized Differences
14 15	DAD Discharge Abstract Database
16 17	HIV Human Immunodeficiency Virus
18 19	ICES Institute for Clinical Evaluative Sciences
20 21	LHIN Local Health Integration Network
22 23	NACRS National Ambulatory Care Reporting System
24	<b>OAT</b> Opioid Agonist Treatment
26 27	<b>ODB</b> Ontario Drug Benefit Plan
27	<b>OHIP</b> Ontario Health Insurance Plan
29 30	<b>OR</b> Odds Ratio
31 32	OUD Onioid Use Disorder
33	
34 35	<b>RPDB</b> Registered Persons Database
36 37	SAS Statistical Analytics Software
38	
39	
40	DECLARATIONS
41	
42 43	Acknowledgments

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# **Authors' contributions**

Kristen A. Morin participated in the conceptualization, design, data analysis, writing and preparation of the article in question.

John R. Dabous participated in the conceptualization, data analysis, and final revision of the article in question

Frank Vojtesek participated in database management, cleaning and organization, data analysis and final revision of the article in question.

Dr. David C. Marsh is the corresponding author. He played a leadership role in planning of this study as part of a larger research project. He also has contributed to the interpretation of results and final review of the article in question.

# Authors' information

KA Morin is a postdoctoral fellow at the Northern Ontario School of Medicine. JR Dabous is a PhD Candidate in the School of Rural and Northern Health at Laurentian University. DC Marsh maintains the following roles: Chief Medical Canadian Addiction Treatment Center, opioid agonist therapy provider, and Associate Dean of Community Engagement and Associate Dean of Research, Research Innovation and International Relations Professor, Clinical Sciences at the Northern Ontario School of Medicine. He is a well-established physician and researcher in the addiction medicine field.

# **Competing interest statement**

Dr. David Marsh maintains the following roles: Chief Medical Director at CATC (Canadian Addiction Treatment Center), opioid agonist therapy provider. Dr. Marsh has no ownership stake in the CATC as a stipendiary employee. We do not foresee any conflict of interest as data will be made freely available to the public and the CATC, and the Universities have no ability to prevent publication and dissemination of knowledge. The authors have no conflicts declared.

# **Consent for publication**

All authors have given consent for publication. Universities have no ability to prevent publication and dissemination of knowledge.

# Ethics approval and consent to participate

The Laurentian University Research Ethics Board, provided ethical approval under project ID number 6009752.

# Availability of data and material

Data may be obtained from a third party and are not publicly available

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#### Figure 1: Flow Chart Outlining Data Build Including Linkages.



# Appendix A- Definition and ICD 9 and ICD10 codes for Mental Health Conditions

Mental Health	ICD-10 Codes (DX10CODE1)	ICD-9 Code	es <u>Go Back</u>
Conditions			
Neurodevelopmental	F90 Attention-deficit hyperactivity disorders	314.0 A	ATTENTION DEFICIT DIS*
Disorders	Includes:		
	attention deficit disorder with hyperactivity	314.00 A	Attention-Deficit/Hyperactivity Disor
	attention deficit syndrome with hyperactivity	Predominan	tly Inattentive Type
	F90.0 Attention-deficit hyperactivity disorder,	314.01 A	Attention-Deficit/Hyperactivity Disor
	predominantly inattentive type	Combined T	ype or Attention-Deficit/Hyperactivi
	F90.1 Attention-deficit hyperactivity disorder,	Disorder Pre	edominantly Hyperactive-Impulsive
	predominantly hyperactive type	314.9 A	Attention-Deficit/Hyperactivity Disor
	F90.2 Attention-deficit hyperactivity disorder,	NOS	
	combined type		
	F90.8 Attention-deficit hyperactivity disorder,		
	other type		
	F90.9 Attention-deficit hyperactivity disorder,		
	unspecified type		
	Attention-deficit hyperactivity disorder of childhood		
	or adolescence NOS		
	Attention-deficit hyperactivity disorder NOS		
Sahiranhrania Susatur	Sabizantrania sabizatural delusional and the	205 5	CHIZODUDENIC DICODDEDC+
and Dalatad	non-mood psychotic disorders (F20, F20)	295 0 S	SIMPLE SCHIZOPHRENUA*
anu Keiateu Disordors	F20 Schizonbronic	295.0 3	SIMPLE SCHIZOPHICENIA
Disoruers	F20 Schizophrenia F20 O Baranaid sebizophrenia Daraphrenia	LINSPECIEI	IMPLE SCHIZOPHKEN-
	r 20.0 r aranolu schizophrenia Paraphrenic	205 01 S	NIMDI SCHIZODUDEN SUDCUD
	F20 1 Disorganized sabizonbronia	295.01 3	SIMPL SCHIZOPHREN-SUBCHK
	Hebenhrenic schizophrenia	295.02	SIMP SCHIZ SUBCHP/EYACEP
	Hebenhrenia	295.03	SIMPL SCHIZO CHR/EXACER
	F20.2 Catatonic schizonbronia	295.04	SIMPL SCHIZOPHREN_REMISS
	Schizophrenic catalensy	295.05 S	JEREDHDENIA*
	Schizophrenic catatopia	295.1 1	Schizonhrenia, Disorganized Type
	Schizophrenic flexibilitas cerea	295.10 E	FREPHRENIA-SUBCHRONIC
	F20 3 Undifferentiated schizonhrenia	295.11 F	EBEPHRENIA-CHRONIC
	Atypical schizophrenia	295.12 F	FREPHREN-SUBCHR/FXACERB
	F20 5 Residual schizonhrenia	295.14 F	EBEPHRENIA-CHR/EXACERB
	Restzustand (schizophrenic)	295.15 F	EBEPHRENIA-REMISSION
	Schizophrenic residual state	295.2	CATATONIC SCHIZOPHRENIA*
	F20.8 Other schizophrenia	295.20 S	Schizophrenia. Catatonic Type
	F20.81 Schizophreniform disorder	295.21	CATATONIA-SUBCHRONIC
	Schizophreniform psychosis NOS	295.22	CATATONIA-CHRONIC
	F20.89 Other schizophrenia	295.23	CATATONIA-SUBCHR/EXACERB
	Cenesthopathic schizophrenia	295.24	CATATONIA-CHR/EXACERB
	Simple schizophrenia	295.25	CATATONIA-REMISSION
	F20.9 Schizophrenia, unspecified	295.3 P	ARANOID SCHIZOPHRENIA*
	F21 Schizotypal disorder	295.30 S	Schizophrenia, Paranoid Type
	Borderline schizophrenia	295.31 P	PARANOID SCHIZO-SUBCHR
	Latent schizophrenia	295.32 P	PARANOID SCHIZO-CHRONIC
	Latent schizophrenic reaction	295.33 P	PARAN SCHIZO-SUBCHR/EXAC
	Prepsychotic schizophrenia	295.34 P	ARAN SCHIZO-CHR/EXACERB
	Prodromal schizophrenia	295.35 P	PARANOID SCHIZO-REMISS
	Pseudoneurotic schizophrenia	295.4 A	AC SCHIZOPHRENIC EPISODE*
	Pseudopsychopathic schizophrenia	295.40 S	Schizophreniform Disorder
	Schizotypal personality disorder	295.41 A	AC SCHIZOPHRENIA-SUBCHR
	F22 Delusional disorders	295.42 A	AC SCHIZOPHRENIA-CHR
	Delusional dysmorphophobia	295.43 A	AC SCHIZO-SUBCHR/EXACERB
	Involutional paranoid state	295.44 A	AC SCHIZOPHR-CHR/EXACERB
	Paranoia	295.45 A	AC SCHIZOPHRENIA-REMISS
	Paranoia querulans	295.5 L	ATENT SCHIZOPHRENIA*
	Paranoid psychosis	295.50 L	ATENT SCHIZOPHREN-UNSP
	Paranoid state	295.51 L	AT SCHIZOPHREN-SUBCHR
	Paraphrenia (late)	295.52 L	ATENT SCHIZOPHREN-CHR
	Sensitiver Beziehungswahn	295.53 L	AT SCHIZO-SUBCHR/EXACER
	F23 Brief psychotic disorder	295.54 I	ATENT SCHIZO-CHR/EXACER

2			
5		Psychogenic paranoid psychosis	295.6 RESIDUAL SCHIZOPHRENIA*
4		F24 Shared psychotic disorder	295.60 Schizophrenia, Residual Type
5		Folie à deux	295.61 RESID SCHIZOPHREN-SUBCHR
6		Induced paranoid disorder	295.62 RESIDUAL SCHIZOPHREN-CHR
7		Induced psychotic disorder	295.63 RESID SCHIZO-SUBCHR/EXAC
/		F25 Schizoaffective disorders	295.64 RESID SCHIZO-CHR/EXACERB
8		F25.0 Schizoahective disorder, bipolar type	295.05 RESID SCHIZOPHREN-REMISS
9		Schizooffeetiye disorder, manie type	295.7 SCHIZOAFFECHIVETTFE
10		Schizoaffective disorder, mixed type	295.70 SCHIZOAFFECTIVE-SUBCHR
10		Schizoaffective asychosis bipolar type	295.71 SCHIZOAFFECTIVE CHPONIC
11		Schizonbreniform neuchosis, manie type	295.72 SCHIZOAFFECHVE-CHRONIC
12		F25 1 Schizooffoctive disorder depressive type	295.75 SCHIZOAFF-SOBCHINEXACER
13		Schizoaffective psychosis depressive type	295.75 SCHIZOAFFECTIVE-REMISS
14		Schizonhreniform nsychosis, depressive type	295.8 SCHIZOPHRENIA NEC*
14		F25 8 Other schizoaffective disorders	295.80 SCHIZOPHRENIA NEC-UNSPEC
15		F25.9 Schizoaffective disorder, unspecified	295.81 SCHIZOPHRENIA NEC-SUBCHR
16		Schizoaffective psychosis NOS	295.82 SCHIZOPHRENIA NEC-CHR
17		F28 Other psychotic disorder not due to a	295.83 SCHIZO NEC-SUBCHR/EXACER
10		substance or known physiological condition	295.84 SCHIZO NEC-CHR/EXACERB
18		Chronic hallucinatory psychosis	295.85 SCHIZOPHRENIA NEC-REMISS
19		F29 Unspecified psychosis not due to a substance	295.9 SCHIZOPHRENIA NOS*
20		or known physiological condition	295.90 Schizophrenia Undifferentiated Type
21		Psychosis NOS	295.91 SCHIZOPHRENIA NOS-SUBCHR
∠ I 22			295.92 SCHIZOPHRENIA NOS-CHR
22			295.93 SCHIZO NOS-SUBCHR/EXACER
23			295.94 SCHIZO NOS-CHR/EXACERB
24			295.95 SCHIZOPHRENIA NOS-REMISS
21			297.1 Delusional Disorder
25			297.3 Shared Psychotic Disorder
26			298.0 REACT DEPRESS PSYCHOSIS
27			298.1 EXCITATIV TYPE PSYCHOSIS
28			298.2 REACTIVE CONFUSION
20			298.3 ACUTE PARANOID REACTION
29			298.4 PSYCHOGEN PARANOID PSYCH
30			298.8 Brief Psychotic Disorder
31			298.9 Psychotic Disorder NOS
20	Bipolar and Related	F30 –F31 Manic enisode	20( 00 Director I Director Circle Menie Entre 4
<b>4</b> )		reo rer mane episoue	296.00 Bipolar I Disorder, Single Manic Episode,
32	Disorders	Includes:	Unspecified
32 33	Disorders	Includes: bipolar disorder, single manic episode	296.00 Bipolar I Disorder, Single Manic Episode, Unspecified 296.01 Bipolar I Disorder, Single Manic Episode,
32 33 34	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode	290.00 Bipolar I Disorder, Single Manic Episode, Unspecified 296.01 Bipolar I Disorder, Single Manic Episode, Mild
32 33 34 35	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode,</li> <li>Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode,</li> <li>Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode,</li> </ul>
32 33 34 35 36	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic	296.00 Bipolar I Disorder, Single Manic Episode, Unspecified 296.01 Bipolar I Disorder, Single Manic Episode, Mild 296.02 Bipolar I Disorder, Single Manic Episode, Moderate
32 33 34 35 36	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode,</li> <li>Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode,</li> <li>Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode,</li> <li>Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode,</li> </ul>
32 33 34 35 36 37	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>200.04 Distribution Psychotic Features</li> </ul>
32 33 34 35 36 37 38	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Disorder, Single Manic Episode,</li> </ul>
32 33 34 35 36 37 38 39	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> </ul>
32 33 34 35 36 37 38 39	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, Bipolar I Disorder, Single Manic Episode,</li> </ul>
32 33 34 35 36 37 38 39 40	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Pinpler I Disorder, Single Manic Episode,</li> </ul>
32 33 34 35 36 37 38 39 40 41	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe, without psychotic symptoms	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> </ul>
32 33 34 35 36 37 38 39 40 41 42	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.1 MANIC RECURRENT EPISODE*</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic supor Mania with mood-congruent psychotic symptoms	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.1 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MILD</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30 3 Manic episode in partial remission	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46	Disorders	<ul> <li>Includes:</li> <li>bipolar disorder, single manic episode</li> <li>mixed affective episode</li> <li>F30.1 Manic episode without psychotic symptoms</li> <li>F30.10 Manic episode without psychotic symptoms, unspecified</li> <li>F30.11 Manic episode without psychotic symptoms, mild</li> <li>F30.12 Manic episode without psychotic symptoms, moderate</li> <li>F30.13 Manic episode, severe, without psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.3 Manic episode in partial remission</li> <li>F30.4 Manic episode in partial remission</li> </ul>	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MILD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC SEV W PSYCHO</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.4 Other manic episodes	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MILD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.15 RECUR MANIC-PART REMISS</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MOD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC SEV W PSYCHO</li> <li>296.15 RECUR MANIC-FUI L REMISS</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 44 45 46 47 48	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode. unspecified	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.1 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MOD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 BIPOLAR AFFECTIVE. MANIC*</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.1 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC SEV W PSYCHO</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC SEV W PSYCHO</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes:	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC SEV W PSYCHO</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.41 Bipolar I Disorder, Most Recent Episode</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC SEV W PSYCHO</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode Hypomanic or Manic, Unspecified</li> <li>296.41 Bipolar I Disorder, Most Recent Episode Manic, Mild</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in partial remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness manic-depressive psychosis	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.41 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Mild</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53	Disorders	<ul> <li>Includes:</li> <li>bipolar disorder, single manic episode</li> <li>F30.1 Manic episode without psychotic symptoms</li> <li>F30.10 Manic episode without psychotic symptoms</li> <li>F30.10 Manic episode without psychotic symptoms, unspecified</li> <li>F30.11 Manic episode without psychotic symptoms, mild</li> <li>F30.12 Manic episode without psychotic symptoms, moderate</li> <li>F30.13 Manic episode, severe, without psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.3 Manic episode in partial remission</li> <li>F30.3 Manic episode in partial remission</li> <li>F30.8 Other manic episodes</li> <li>Hypomania</li> <li>F30.9 Manic episode, unspecified</li> <li>Mania NOS</li> <li>F31 Bipolar disorder</li> <li>Includes:</li> <li>manic-depressive illness</li> <li>manic-depressive reaction</li> </ul>	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC -SEV W PSYCHO</li> <li>296.15 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Mild</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Moderate</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in partial remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness manic-depressive reaction F31.0 Bipolar disorder, current episode	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MILD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.15 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Mild</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness manic-depressive reaction F31.0 Bipolar disorder, current episode hypomanic	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MILD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.15 RECUR MANIC -PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode Hypomanic or Manic, Unspecified</li> <li>296.41 Bipolar I Disorder, Most Recent Episode Manic, Mild</li> <li>296.42 Bipolar I Disorder, Most Recent Episode Manic, Moderate</li> <li>296.43 Bipolar I Disorder, Most Recent Episode Manic, Moderate</li> <li>296.43 Bipolar I Disorder, Most Recent Episode Manic, Severe Without Psychotic Features</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness manic-depressive reaction F31.0 Bipolar disorder, current episode hypomanic F31.1 Bipolar disorder, current episode manic	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MILD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC DIS-SEVERE</li> <li>296.15 RECUR MANIC-SEV W PSYCHO</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Mild</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode, severe, without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness manic-depressive reaction F31.0 Bipolar disorder, current episode hypomanic F31.1 Bipolar disorder, current episode hypomanic F31.1 Bipolar disorder, current episode manic without psychotic features	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Moderate</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-MOD</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC-SEV W PSYCHO</li> <li>296.15 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Moderate</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Moderate</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57	Disorders	<ul> <li>Includes:</li> <li>bipolar disorder, single manic episode</li> <li>mixed affective episode</li> <li>F30.1 Manic episode without psychotic symptoms</li> <li>F30.10 Manic episode without psychotic symptoms, unspecified</li> <li>F30.11 Manic episode without psychotic symptoms, mild</li> <li>F30.12 Manic episode without psychotic symptoms, moderate</li> <li>F30.13 Manic episode, severe, without psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.3 Manic episode in partial remission</li> <li>F30.3 Manic episode in full remission</li> <li>F30.4 Manic episode, unspecified</li> <li>Mania NOS</li> <li>F31 Bipolar disorder</li> <li>Includes:</li> <li>manic-depressive illness</li> <li>manic-depressive reaction</li> <li>F31.0 Bipolar disorder, current episode</li> <li>hypomanic</li> <li>F31.1 Bipolar disorder, current episode</li> <li>manic without psychotic features</li> </ul>	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.1 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC-SEV W PSYCHO</li> <li>296.15 RECUR MANIC-PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.40 Bipolar I Disorder, Most Recent Episode Hypomanic or Manic, Unspecified</li> <li>296.41 Bipolar I Disorder, Most Recent Episode Manic, Mild</li> <li>296.42 Bipolar I Disorder, Most Recent Episode Manic, Moderate</li> <li>296.43 Bipolar I Disorder, Most Recent Episode Manic, Severe With Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode Manic, Severe With Psychotic Features</li> <li>296.43 Bipolar I Disorder, Most Recent Episode Manic, Severe With Psychotic Features</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	Disorders	Includes: bipolar disorder, single manic episode mixed affective episode F30.1 Manic episode without psychotic symptoms F30.10 Manic episode without psychotic symptoms, symptoms, unspecified F30.11 Manic episode without psychotic symptoms, mild F30.12 Manic episode without psychotic symptoms, moderate F30.13 Manic episode, severe, without psychotic symptoms F30.2 Manic episode, severe with psychotic symptoms Manic stupor Mania with mood-congruent psychotic symptoms Mania with mood-incongruent psychotic symptoms F30.3 Manic episode in partial remission F30.4 Manic episode in full remission F30.8 Other manic episodes Hypomania F30.9 Manic episode, unspecified Mania NOS F31 Bipolar disorder Includes: manic-depressive illness manic-depressive reaction F31.0 Bipolar disorder, current episode manic without psychotic features	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.1 MANIC, RECURRENT EPISODE*</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.4 BIPOLAR AFFECTIVE, MANIC*</li> <li>296.40 Bipolar I Disorder, Most Recent Episode Manic, Mild</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Mild</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Moderate</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> </ul>
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58	Disorders	<ul> <li>Includes:</li> <li>bipolar disorder, single manic episode</li> <li>mixed affective episode</li> <li>F30.1 Manic episode without psychotic symptoms</li> <li>F30.10 Manic episode without psychotic symptoms, magecified</li> <li>F30.11 Manic episode without psychotic symptoms, mild</li> <li>F30.12 Manic episode without psychotic symptoms, moderate</li> <li>F30.13 Manic episode, severe, without psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>F30.2 Manic episode, severe with psychotic symptoms</li> <li>Manic stupor</li> <li>Mania with mood-congruent psychotic symptoms</li> <li>F30.3 Manic episode in partial remission</li> <li>F30.4 Manic episode in full remission</li> <li>F30.9 Manic episode, unspecified</li> <li>Mania NOS</li> <li>F31 Bipolar disorder</li> <li>Includes:</li> <li>manic-depressive illness</li> <li>manic-depressive reaction</li> <li>F31.0 Bipolar disorder, current episode manic without psychotic features</li> </ul>	<ul> <li>296.00 Bipolar I Disorder, Single Manic Episode, Unspecified</li> <li>296.01 Bipolar I Disorder, Single Manic Episode, Mild</li> <li>296.02 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.03 Bipolar I Disorder, Single Manic Episode, Severe Without Psychotic Features</li> <li>296.04 Bipolar I Disorder, Single Manic Episode, Severe With Psychotic Features</li> <li>296.05 Bipolar I Disorder, Single Manic Episode, In Partial Remission</li> <li>296.06 Bipolar I Disorder, Single Manic Episode, In Full Remission</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.10 RECUR MANIC DIS-UNSPEC</li> <li>296.11 RECUR MANIC DIS-MILD</li> <li>296.12 RECUR MANIC DIS-SEVERE</li> <li>296.13 RECUR MANIC DIS-SEVERE</li> <li>296.14 RECUR MANIC PART REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.16 RECUR MANIC-FULL REMISS</li> <li>296.40 Bipolar I Disorder, Most Recent Episode</li> <li>Hypomanic or Manic, Unspecified</li> <li>296.41 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Mild</li> <li>296.42 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Moderate</li> <li>296.43 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> <li>296.44 Bipolar I Disorder, Most Recent Episode</li> <li>Manic, Severe Without Psychotic Features</li> </ul>

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	F31.10 Bipolar disorder, current episode manic	296.45 Bipolar I Disorder, Most Recent Episode
	without psychotic features, unspecified	Manic, In Partial Remission
	F31.11 Bipolar disorder, current episode manic	296.46 Bipolar I Disorder, Most Recent Episode
	without psychotic features, mild	Manic, in Full Remission
	without psychotic features moderate	296.50 Binolar I Disorder Most Recent Enisode
	F31.13 Binolar disorder, current enisode manic	Depressed. Unspecified
	without psychotic features, severe	296.51 Bipolar I Disorder, Most Recent Episode
	F31.2 Bipolar disorder, current episode manic	Depressed, Mild
	severe with psychotic features Bipolar disorder,	296.52 Bipolar I Disorder, Most Recent Episode
	current episode manic with mood-congruent	Depressed, Moderate
	psychotic symptoms	296.53 Bipolar I Disorder, Most Recent Episode
	Bipolar disorder, current episode manic with mood-	Depressed, Severe Without Psychotic Features
	incongruent psychotic symptoms	296.54 Bipolar I Disorder, Most Recent Episode
	F31.3 Bipolar disorder, current episode depressed,	Depressed, Severe With Psychotic Features
	mild or moderate severity	296.55 Bipolar I Disorder, Most Recent Episode
	depressed mild or moderate severity unspecified	296.56 Binolar I Disorder Most Recent Episode
•	F31 31 Binolar disorder current enisode	Depressed In Full Remission
	depressed, mild	296.6 BIPOLAR AFFECTIVE, MIXED*
	F31.32 Bipolar disorder, current episode	296.60 Bipolar I Disorder, Most Recent Episode
	depressed, moderate	Mixed, Unspecified
	F31.4 Bipolar disorder, current episode depressed,	296.61 Bipolar I Disorder, Most Recent Episode
	severe, without psychotic features	Mixed, Mild
	F31.5 Bipolar disorder, current episode depressed,	296.62 Bipolar I Disorder, Most Recent Episode
	severe, with psychotic features	Mixed, Moderate
	Bipolar disorder, current episode depressed with	296.63 Bipolar I Disorder, Most Recent Episode
	mood-incongruent psychotic symptoms	Mixed, Severe Without Psychotic Features
	Bipolar disorder, current episode depressed with	290.04 Bipolar I Disorder, Most Recent Episode Mixed Severe With Bayehotic Features
	F31 6 Binolar disorder current enisode mixed	296.65 Binolar I Disorder Most Recent Enisode
	F31.60 Bipolar disorder, current episode mixed.	Mixed. In Partial Remission
	unspecified	296.66 Bipolar I Disorder, Most Recent Episode
	F31.61 Bipolar disorder, current episode mixed,	Mixed, In Full Remission
	mild	296.7 Bipolar I Disorder, Most Recent Episode
	F31.62 Bipolar disorder, current episode mixed,	Unspecified
	moderate	296.8 MANIC-DEPRESSIVE NEC/NOS*
	F31.63 Bipolar disorder, current episode mixed,	296.80 Bipolar Disorder NOS
	Severe, without psychotic leatures	290.81 ATTPICAL MANIC DISORDER
	severe with psychotic features	296.80 Binolar II Disorder
	Bipolar disorder, current episode mixed with mood-	
	congruent psychotic symptoms	
	Bipolar disorder, current episode mixed with mood-	
	incongruent psychotic symptoms	
	F31.7 Bipolar disorder, currently in remission	
	F31.70 Bipolar disorder, currently in remission,	
	most recent episode unspecified	
	F31.71 Bipolar disorder, in partial remission, most	
	Figure Fi	
	recent enisode hynomanic	
	F31.73 Bipolar disorder, in partial remission, most	
	recent episode manic	
	F31.74 Bipolar disorder, in full remission, most	
	recent episode manic	
	F31.75 Bipolar disorder, in partial remission, most	
	recent episode depressed	
	F31./6 Bipolar disorder, in full remission, most	
	Figure Figure Figure And Figure Figur	
	recent episode mixed	
	F31.78 Bipolar disorder, in full remission, most	
	recent episode mixed	
	F31.8 Other bipolar disorders	
	F31.81 Bipolar II disorder	

F31.89 Other bipolar disorder Recurrent manic episodes NOS F31.9 Bipolar disorder, unspecified

includes: single episode of agitated depression	296.20 Major Depressive Disorder, Single Enisode Unspecified
single episode of agriated depression	
single enjoyee of depressive reaction	296.21 Major Depressive Disorder Single
single episode of major depression	Episode, Mild
single episode of psychogenic depression	296.22 Major Depressive Disorder, Single
single episode of reactive depression	Episode, Moderate
single episode of vital depression	296.23 Major Depressive Disorder, Single
F32.0 Major depressive disorder, single episode,	Episode, Severe Without Psychotic Features
mild F22.1 Major depressive disorder single enisode	296.24 Major Depressive Disorder, Single Episode Severe With Psychotic Features
r 52.1 Major depressive disorder, single episode, moderate	296.25 Major Depressive Disorder Single
F32.2 Major depressive disorder, single episode.	Episode, In Partial Remission
severe without psychotic features	296.26 Major Depressive Disorder, Single
F32.3Major depressive disorder, single episode,	Episode, In Full Remission
severe with psychotic features	296.3 DEPR PSYCH, RECUR EPISOD*
Single episode of major depression with mood-	296.30 Major Depressive Disorder, Recurrent,
Single episode of major depression with mood-	296.31 Major Depressive Disorder, Recurrent.
incongruent psychotic symptoms	Mild
Single episode of major depression with psychotic	296.32 Major Depressive Disorder, Recurrent,
symptoms	Moderate
Single episode of psychogenic depressive psychosis	296.33 Major Depressive Disorder, Recurrent,
Single episode of psychotic depression	Severe Without Psychotic Features
F32 4 Major depressive disorder single episode in	270.54 Iviajor Depressive Disorder, Kecurrent, Severe With Psychotic Features
partial remission	296.35 Major Depressive Disorder. Recurrent. In
F32.5 Major depressive disorder, single episode, in	Partial Remission
full remission	296.36 Major Depressive Disorder, Recurrent, In
F32.8 Other depressive episodes	Full Remission
Atypical depression	206.00 Mood Disorder NOS
Single episode of 'masked' depression NOS	270.70 WOOD DISOLUCE NOS
F32.9 Major depressive disorder, single episode.	300.4 Dysthymic Disorder
unspecified	
Depression NOS	311 Depressive Disorder NOS
Depressive disorder NOS	
Major depression NUS F33 Major depressive disorder recurrent	
Includes:	
recurrent episodes of depressive reaction	
recurrent episodes of endogenous depression	7
recurrent episodes of major depression	
recurrent episodes of psychogenic depression	
recurrent episodes of seasonal depression	
recurrent episodes of seasonal depressive disorder	
F33.0 Major depressive disorder, recurrent, mild	
F33.1 Major depressive disorder, recurrent,	
moderate	
F33.2 Major depressive disorder, recurrent severe	
Without psychotic leatures F33 3 Major depressive disorder requirement covere	
with psychotic symptoms	
Endogenous depression with psychotic symptoms	
Recurrent severe episodes of major depression with	
mood-congruent psychotic symptoms	
Recurrent severe episodes of major depression with	
mood-incongruent psychotic symptoms	
neutrent severe episodes of major depression with	
Recurrent severe episodes of psychogenic depressive	
psychosis	
Recurrent severe episodes of psychotic depression	
Recurrent severe episodes of reactive depressive	
psychosis	
F33.4 Major depressive disorder, recurrent, in	
remission F33 40 Major depressive disorder and the	
r 33.40 Major depressive disorder, recurrent, in	
 remission, unspecifieu	1

-		F33.41 Major depressive disorder, recurrent, in		
		partial remission		
		F 55.42 Major depressive disorder, recurrent, in full remission		
		F33.8 Other recurrent depressive disorders		
		F33.9 Major depressive disorder, recurrent,		
		unspecified		
		Monopolar depression NOS		
		F34 Persistent mood [affective] disorders F34 0 Cyclothymic disorder		
		Affective personality disorder		
		Cycloid personality		
		Cyclothymia		
		Cyclothymic personality		
		F 34.1 Dystnymic disorder		
		Depressive neurosis Depressive personality disorder		
		Dysthymia		
		Neurotic depression		
		Persistent anxiety depression		
		F 34.8 Other persistent mood [affective] disorders		
		unspecified		
		F39 Unspecified mood [affective] disorder		
-		Affective psychosis NOS		
_	Anxiety Disorders	F40 Phobic anxiety disorders	300.0	ANXIETY STATES*
		F40.0 Agoraphobia	300.00	Anxiety Disorder NOS
		F40.00 Agoraphobia, unspecified F40.01 Agoraphobia with papie disorder	300.01	Generalized Anxiety Disorder
		Panic disorder with agoraphobia	300.02	ANXIETY STATE NEC
		F40.02 Agoraphobia without panic disorder	300.2	PHOBIC DISORDERS*
		F40.1 Social phobias	300.20	PHOBIA NOS
		Anthropophobia	300.21	Panic Disorder With Agoraphobia
		Social anxiety disorder of childhood	300.22 Disorder	Agoraphobia Without History of Panic
		F40.11 Social phobia, generalized	300.23	Social Phobia
		F41.0 Panic disorder [episodic paroxysmal	500.25	
		anxiety] without agoraphobia		
		Panic attack		
		Panic state		
		F41.1Generalized anxiety disorder		
		Anxiety reaction		
		Anxiety state		
		Overanxious disorder		
		F41.30ther mixed anxiety disorders		
		F41.8 Other specified anxiety disorders		
		Anxiety hysteria		
		Mixed anxiety and depressive disorder		
		F41.9 Anxiety disorder, unspecified		
		Anxiety NOS		
-	Obsessive Commutaine	E42 Obsessive compulsive disorder	300.2	Obsassiva Compulsiva Disandan
	and Related	Anancastic neurosis	300.3	Obsessive-Compulsive Disorder
	Disorders	Obsessive-compulsive neurosis	312.39	Trichotillomania
-	Trauma and Stressor-	F43 Reaction to severe stress, and adjustment	308	Acute reaction to stress
	Related	disorders	300	Adjustment reaction
	Disorders	F43.0 Acute stress reaction	507	i sajuștinent i caction
		Acute crisis reaction Acute reaction to stress	308	ACUTE REACTION TO STRESS*
		Combat and operational stress reaction	308.0	STRESS REACT, EMOTIONAL
		Combat fatigue	308.1	STRESS REACTION, FUGUE
		Crisis state	308.2	STRESS REACT, PSYCHOMOT
		Psychic shock	308.3	Acute Stress Disorder
		F43.1 Post-traumatic stress disorder (PTSD)	308.4	ACUTE STRESS REACT NOS
		F42 10 De 4 france di estadore en estadore est	309	ADJUSTMENT REACTION*
		Edd III Post-frailmatic offace Alexande Indernation		
		F43. 11 Post-traumatic stress disorder, unspecified	309.0	Adjustment Disorder With Depressed
		F43.10 Post-traumatic stress disorder, unspecified F43.11 Post-traumatic stress disorder, acute F43.12 Post-traumatic stress disorder, chronic	309.0 Mood	Adjustment Disorder With Depressed

	F43.2 Adjustment disorders	309.1 PROLONG DEPRESSIVE REACT
	Culture shock	309.2 ADJUST REACT/OTH EMOTION*
	Grief reaction	309.21 Separation Anxiety Disorder
	Fospitalism in children <b>F43 20</b> A dijustment disorder unspecified	309.22 EMANCIPATION DISORDER
	F43.21 Adjustment disorder with depressed mood	309.24 Adjustment Disorder With Anxiety
	F43.22 Adjustment disorder with anxiety	309.28 Adjustment Disorder With Mixed Anxiety
	F43.23 Adjustment disorder with mixed anxiety	and Depressed Mood
	and depressed mood	309.29 ADJ REACT-EMOTION NEC
	F43.24 Adjustment disorder with disturbance of	309.3 Adjustment Disorder With Disturbance of
	CONDUCT F43 25 Adjustment disorder with mixed	309.4 A diustment Disorder With Mixed
	disturbance of emotions and conduct	Disturbance of Emotions and Conduct
	F43.29 Adjustment disorder with other symptoms	309.8 OTHER ADJUST REACTION*
	F43.8 Other reactions to severe stress	309.81 Posttraumatic Stress Disorder
	F43.9 Reaction to severe stress, unspecified	309.82 ADJUST REACT-PHYS SYMPT
		200.80 ADJUST REACT-WITHDRAWAL
		309.9 Adjustment Disorder Unspecified
Feeding and Eating	F50 Eating disorders	307.1 Anorexia Nervosa
Disorders	F50.00Anorexia nervosa	307.5 EATING DISORDERS NEC/NOS*
	F50.01Anorexia nervosa, unspecified	307.50 Eating Disorder NOS
	F50.02 Anorexia nervosa, restricting type	307.51 Bulimia Nervosa
	F50.03 Anorexia nervosa, binge eating/purging	
	Type F50 2 Bulimia nervosa	
	Bulimia NOS	
	Hyperorexia nervosa	
	F50.9 Eating disorder, unspecified	
	Atypical anorexia nervosa	
Condor Dysphoria	Atypical builmia nervosa E64 Conder identity disorders	302.5 TPANS SEVUALISM*
Gender Dysphoria	F64.1 Gender identity disorder in adolescence and	302.50 TRANS-SEXUALISM NOS
	adulthood	302.51 TRANS-SEXUALISM, ASEXUAL
	Dual role transvestism	302.52 TRANS-SEXUAL, HOMOSEXUAL
	Transsexualism	302.53 TRANS-SEX, HETEROSEXUAL
	F64.2 Gender identity disorder of childhood	302.6 Gender Identity Disorder in Children or Gonder Identity Disorder NOS
	F64.9 Gender identity disorder, unspecified	302.85 Gender Identity Disorder in Adolescents
	Gender-role disorder NOS	or Adults
Disruptive, Impulse-	Behavioral and emotional disorders with onset	312 Disturbance of conduct, not
Control,	usually occurring in childhood and adolescence	elsewhere classified
and Conduct	(F90-F98) Codes within estagories E00 E00 meruha usal	312.3 IMPULSE CONTROL DIS NEC*
Disoruers	regardless of the age of a nation. These disorders	312.30 Impulse-Control Disorder NOS
	generally have onset within the childhood or	
	adolescent years, but may continue throughout life or	312.81 Conduct Disorder, Childhood-Onset Type
	not be diagnosed until adulthood	312.82 Conduct Disorder, Adolescent-Onset Type
	F91 Conduct disorders	312.09 Conduct Disorder, Unspecified Onset 312.9 Disruptive Rehavior Disorder NOS
	F91.0 Conduct disorder confined to family context	512.7 Disruptive Beliavior Disorder 1005
	Unsocialized conduct disorder	
	Conduct disorder, solitary aggressive type	312.20 SOCIAL CONDUCT DIS-UNSP
	Unsocialized aggressive disorder	312.21 SOCIAL CONDUCT DIS-MILD
	F91.2 Conduct disorder, adolescent-onset type	312.22 SOCIAL CONDUCT DIS-MOD
	Socialized conduct disorder	312.23 SUCIAL CONDUCT DIS-SEV 312.3 IMPLIESE CONTROL DIS NEC*
	Conduct disorder, group type	312.30 Impulse-Control Disorder NOS
	F91.3 Oppositional defiant disorder F91.8 Other conduct disorders	312.31 Pathological Gambling
	F91.9 Conduct disorder, unspecified	312.32 Kleptomania
	Behavioral disorder NOS	312.33 Pyromania
	Conduct disorder NOS	312.34 Intermittent Explosive Disorder
	Disruptive behavior disorder NOS	312.35 ISOLATED EXPLOSIVE DIS
	F63 Impulse disorders	
	Excludes2:	313.81 Oppositional Defiant Disorder
	substances (E10-E10)	STORE Sprostronal Denant Disorder
	impulse disorders involving sexual behavior (F65 -)	
	F63.0 Pathological gambling	
	Compulsive gambling	

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	F63.1 Pyromania	
	F63.2 Klentomania	
	Pathological stealing	
	F63.3 Trichotillomania	
	Hair plucking	
	F63.8 Other impulse disorders	
	F63.81 Intermittent explosive disorder	
	F63.0 Impulse disorder unspecified	
	Impulse control disorder NOS	
Personality Disorders	F60	301 PERSONALITY
	F60.1 Schizoid personality disorder	DISORDERS*
	F60.2 Antisocial personality disorder	2010 Darganality Digarda
	Amoral personality (disorder)	301.0 Faranoid Fersonality Disorde
	Dissocial personality disorder	301.1 AFFECTIVE
	Psychopathic personality (disorder)	PERSONALITY*
	Sociopathic personality (disorder)	301.10 AFFECTIV PERSONALITY
	F60.3 Borderline personality disorder	NOS
	Aggressive personality (disorder)	301 11 CHRONIC HYPOMANIC
	Enouonally unstable personality disorder	DEDGON
	F60.4 Histrionic personality disorder	PEKSUN
	Hysterical personality (disorder)	301.12 CHR DEPRESSIVE PERSO
	Psychoinfantile personality (disorder)	301.13 Cyclothymic Disorder
	F60.5 Obsessive-compulsive personality disorder	301.2 SCHIZOID PERSONALITY
	Anankastic personality (disorder)	301.20 Schizoid Personality Disorde
	Obsessional personality (disorder)	201 21 INTROVERTED
	obsessive-compulsive disorder (F42)	
	F60.6 Avoidant personality disorder	PERSONALITY
	Anxious personality disorder	301.22 Schizotypal Personality
	F60.7 Dependent personality disorder	Disorder
	Asthenic personality (disorder)	301.3 EXPLOSIVE
	Passive personality (disorder)	PERSONALITY
	F60.8 Other specific personality disorders	301 1 Obsessive Compulsive
	F60.81 Narcissistic personality disorder	Demonality Disorder
	F60.89 Other specific personality disorders	Personality Disorder
	Eccentric personality disorder	301.50 Histrionic Personality Disord
	Immature personality disorder	301.51 CHR FACTITIOUS ILLNES
	Passive-aggressive personality disorder	301.59 HISTRIONIC PERSON NEC
	Psychoneurotic personality disorder	301.6 Dependent Personality
	Self-defeating personality disorder	Disorder
	F60.9 Personality disorder, unspecified	3017 Antisocial Demonslity
	Character neurosis NOS	Discult
	Pathological personality NOS	Disorder
		301.8 OTHER PERSONALITY
		DIS*
		301.81 Narcissistic Personality
		Disorder
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		201.02 Avoluant Personality Disorde
		301.83 Borderline Personality
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		301.9 Personality Disorder NOS
	E10 E10	301.9 Personality Disorder NOS
Substance Use Disorders	F10-F19	301.9       Personality Disorder NOS         303       Alcohol dependence
	304 305 drugs	Drug dependence Nondependent abuse of
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	303	ALCOHOL DEPENDENCE SYNDR*
	303.0	AC ALCOHOL INTOXICATION*
	303.01	AC ALCOHOL INTOX-CONTIN
	303.02	AC ALCOHOL INTOX-EPISOD
	303.03	AC ALCOHOL INTOX-REMISS
	303.9	ALCOHOL DEPEND NEC/NOS*
	303.90	Alcohol Dependence
	303.91	ALCOH DEP NEC/NOS-CONTIN
	303.92	ALCOH DEP NEC/NOS-REMISS
	304	DRUG DEPENDENCE*
	304.0	OPIOID TYPE DEPENDENCE*
	304.00	Opioid Dependence
	304.01	OPIOID DEPEND-CONTIN
	304.02	OPIOID DEPENDENCE DEMISS
	304.03 304.1	BARBITURATE DEPENDENCE*
	304.10	Sedative, Hypnotic, or Anxiolytic
	Depender	nce
	304.11	BARBITURAT DEPEND-CONTIN
	304.12	BARBITURAT DEPEND-EPISOD
	304.13	BARBITURAT DEPEND-REMISS
	304.2 304.2	Cocaine Dependence
	304.20	COCAINE DEPEND-CONTIN
	304.22	COCAINE DEPEND-EPISODIC
	304.23	COCAINE DEPEND-REMISS
	304.3	CANNABIS DEPENDENCE*
	304.30	Cannabis Dependence
	304.31	CANNABIS DEPEND-CONTIN
	304.32 304.33	CANNABIS DEPEND-EPISODIC
	304.4	AMPHETAMINE DEPENDENCE*
	304.40	Amphetamine Dependence
	304.41	AMPHETAMIN DEPEND-CONTIN
	304.42	AMPHETAMIN DEPEND-EPISOD
	304.43	AMPHETAMIN DEPEND-REMISS
	304.5	HALLUCINOGEN DEPENDENCE*
	304.50	HAILUCINOGEN DEP CONTIN
	304.52	HALLUCINOGEN DEP-CONTIN
	304.53	HALLUCINOGEN DEP-REMISS
	304.6	DRUG DEPENDENCE NEC*
	304.60	Inhalant Dependence or Phencyclidine
	Depender	
	304.61	DRUG DEPEND NEC-CONTIN
	304.62 304.62	DRUG DEPEND NEC-EPISODIC
	304.03	OPIOID/OTHER DRUG DEPEND*
	304.70	OPIOID/OTHER DEP-UNSPEC
	304.71	OPIOID/OTHER DEP-CONTIN
	304.72	OPIOID/OTHER DEP-EPISOD
	304.73	OPIOID/OTHER DEP-REMISS
	304.8	COMB DRUG DEPENDENCE NEC*
	304.80	COMB DBUG DEP NEC CONTIN
	304.81 304.82	COMB DRUG DEP NEC-CUNTIN
	304.82	COMB DRUG DEP NEC-REMISS
	304.9	DRUG DEPENDENCE NOS*
	304.90	Other (or Unknown) Substance
	Depender	nce
	304.91	DRUG DEPEND NOS-CONTIN
	304.92	DRUG DEPEND NOS-EPISODIC
	304.93	DKUG DEPEND NOS-REMISS

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1         2         3         4         5         6         7         8         9         10         11         12         13         14         15         16         17         18         19         20         21         22         23         24         25         26         27         28         29         30         31         32         33         34         35         36         37         38         39         40         41         42         43         44         45         46         47         48         49         50         51         52         53         54	<ul> <li>305 NONDEPENDENT DRUG ABUSE*</li> <li>3050 ALCOHOL ABUSE</li> <li>3050 ALCOHOL ABUSE-CONTINUOUS</li> <li>3051 ALCOHOL ABUSE-CONTINUOUS</li> <li>3051 ALCOHOL ABUSE-THEORIES</li> <li>3051 Nicoline Dependence</li> <li>3052 CANNABIS ABUSE*</li> <li>3052 CANNABIS ABUSE-CONTIN</li> <li>3052 CANNABIS ABUSE-TRENDS</li> <li>3053 HALLUCINOCA ABUSE-CONTIN</li> <li>3052 CANNABIS ABUSE-LINE MUSS</li> <li>3053 HALLUCINOCA ABUSE-CONTIN</li> <li>3054 BARBITURATE ABUSE-CONTINUOUS</li> <li>3055 O Opicid Abuse</li> <li>3055 OPICID ABUSE*</li> <li>3056 OPICID ABUSE*</li> <li>3057 OAMPETAIN REMISS</li> <li>3057 OAMPETAIN REMISS</li> <li>3058 OPICID ABUSE*</li> <li>3059 DEUC ABUSE*</li> <li>3051 OPICID ABUSE*</li> <li>3051 OPICID ABUSE*</li> <li>3052 DEUC ABUSE NEC-NOTIN</li> <li>3052 DEUC ABUSE NEC-NOTIN</li> <li>3053 OPICID ABUSE NECTORE</li> <li>3059 DEUC ABUSE NEC-NOTIN</li> <li>3059 DEUC ABUSE NEC-ONTIN</li> <li< th=""></li<></ul>
53 54	Hypnotic or Anxiolytic Withdrawal 292.1 DRUG PARANOID/HALLUCINOS* 292.11 Amphetamine, Cannabis, Cocaine,
55 56	Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown) Substance-Induced Psychotic
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Disorder, With Delusions; Sedative, Hypnotic or Anxiolytic-Induced Psychotic Disorder, With Delusions

Amphetamine, Cannabis, Cocaine, 292.12 Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown)] Substance-Induced Psychotic Disorder, With Hallucinations; Sedative-, Hypnoticor Anxiolytic-Induced Psychotic Disorder, With Hallucinations

, K (Re Perc 292.9 Cocaine Phencyol Related Dis Anxiolytic-b PATHOLOGIC DRUG INTOX 292.2 OTHER DRUG MENTAL DIS\* Amphetamine, Cannabis, Cocaine, Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown)] Substance Intoxication Delirium; Sedative, Hypnotic or Anxiolytic Intoxication or Withdrawal Delirium Inhalant or Other (or Unknown) Substance-Induced Persisting Dementia; Sedative-, Hypnotic- or Anxiolytic-Induced Persisting Dementia Other (or Unknown)] Substance-Induced Persisting Amnestic Disorder; Sedative-, Hypnoticor Anxiolytic-Induced Persisting Amnestic Disorder Amphetamine, Cocaine, Hallucinogen, Inhalant, Opioid, Phencyclidine, or Other (or Unknown) Substance-Induced Mood Disorder; Sedative-, Hypnotic- or Anxiolytic-Induced Mood

Amphetamine, Caffeine, Cocaine, Opioid, or Other (or Unknown) Substance-Induced Sleep Disorder, Sedative-, Hypnotic- or Anxiolytic-Induced

Substance-Induced Anxiety Disorder, Sexual Disfunction, Sleep Disorder, or Intoxication (Refer to the DSM-IV-TR); Hallucinogen Persisting

Amphetamine, Caffeine, Cannabis, Cocaine, Hallucinogen, Inhalant, Nicotine, Opioid, Phencyclidine, or Other (or Unknown) Substance-Related Disorder NOS; Sedative-, Hypnotic- or Anxiolytic-Related Disorder NOS

1         2         3         4         5         6         7         8         9         10         11         12         13         14         15         16         17         18         19         20         21         22         23         24         25         26         27         28         29         30         31         32         33         34         35         36         37         38         39         40         41         42         43         44         45         46         47         48         49         50         51         52         53         54         55	
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Ite m No.	STROBE items	Location in manuscript where items are reported	RECORD items	Location in manuscript where items are reported
Fitle and abstract		1		
	<ul> <li>(a) Indicate the study's design with a commonly used term in the title or the abstract</li> <li>(b) Provide in the abstract an informative and balanced summary of what was done and what was found</li> </ul>	page 2 - ABSTRACT, , "Data for this retrospective cohort"	RECORD 1.1: The type of data used should be specified in the title or abstract. When possible, the name of the databases used should be included. RECORD 1.2: If applicable, the geographic region and timeframe within which the study took place should be reported in the title or abstract. RECORD 1.3: If linkage between databases was conducted for the study, this should be clearly stated in the title or abstract.	page 2- ABSTRACT, , in-text reference: "were derived from administrative data sources " and page 2- ABSTRACT, in-text reference: "in Ontario, Canada" page 2- ABSTRACT, in-text reference: "All patient information was linked anonymously across databases using anonymousl tan

					digit health card numbers."
Introduction,					
Background rationale	2	Explain the scientific background and rationale for the investigation being reported	page 4 to 5 - INTRODUCTION,		
Objectives	3	State specific objectives, including any pre-specified hypotheses	page 5- INTRODUCTION, in-text reference: "the goal of this study was to evaluate how UDS frequency impacts treatment retention in OAT in Ontario."		
Methods					
Study Design	4	Present key elements of study design early in the paper	page 5 - METHODS, in-text reference: "Data for this retrospective cohort study"	2001	
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	page 5 to 6 - METHODS		
Participants	6	(a) Cohort study - Give the eligibility criteria, and the sources and methods of	Page 6 - METHODS, in-text reference: " <i>We</i>	RECORD 6.1: The methods of study population selection (such as codes or algorithms used to	Page 6 and Figure 1 - METHODS,

		selection of participants.	excluded all	identify subjects) should be listed	Page 6, in-text
		Describe methods of follow-	patients"	in detail. If this is not possible, an	reference: "Th
		up <i>Case-control study</i> - Give the		explanation should be provided.	Ontario Drug Benefit"
		eligibility criteria, and the		RECORD 6.2: Any validation	0
		sources and methods of case		studies of the codes or algorithms	n/a
		ascertainment and control		used to select the population	
		selection. Give the rationale		should be referenced. If	
		for the choice of cases and		validation was conducted for this	
		controls		study and not published	
		Cross-sectional study - Give		elsewhere, detailed methods and	
		the eligibility criteria, and the		results should be provided.	
		sources and methods of			
		selection of participants		RECORD 6.3: If the study	Figure 1
				involved linkage of databases,	
		(b) Cohort study - For	n/a	consider use of a flow diagram or	
		matched studies, give		other graphical display to	
		matching criteria and number		demonstrate the data linkage	
		of exposed and unexposed		process, including the number of	
		Case-control study - For		individuals with linked data at	
		matched studies, give		each stage.	
		matching criteria and the			
		number of controls per case			
Variables	7	Clearly define all outcomes,	Page 7 -	RECORD 7.1: A complete list of	Page 7 -
		exposures, predictors,	METHODS,	codes and algorithms used to	METHODS,
		potential confounders, and		classify exposures, outcomes,	
		effect modifiers. Give		confounders, and effect modifiers	
		diagnostic criteria, if		should be provided. If these	
		applicable.		cannot be reported, an	
				explanation should be provided.	
Data sources/	8	For each variable of interest,	Page 6 -		
measurement		give sources of data and	METHODS		

Bias	9	details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group Describe any efforts to address potential sources of bias	n/a		
Study size	10	Explain how the study size was arrived at	Figure 1		
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	Page 7 and 8- MEHTODS		
Statistical methods	12	<ul><li>(a)Describe all statistical methods, including those used to control for confounding</li><li>(b) Describe any methods</li></ul>	Page 8- MEHTODS, in-text reference: "Descriptive statistics were calculated" n/a	2001	
		used to examine subgroups and interactions			
		(c) Explain how missing data were addressed	page 6 - METHODS, in-text reference: "and those with missing"		

		<ul> <li>(d) <i>Cohort study</i> - If</li> <li>applicable, explain how loss</li> <li>to follow-up was addressed</li> <li>(e) Describe any sensitivity</li> <li>analyses</li> </ul>			
Data access and cleaning methods		ror Dec		RECORD 12.1: Authors should describe the extent to which the investigators had access to the database population used to create the study population.	Page 5- METHODS, "These data were obtained"
			revie	RECORD 12.2: Authors should provide information on the data cleaning methods used in the study.	page 6 - METHODS, in- text reference: "and those with missing"
Linkage				RECORD 12.3: State whether the study included person-level, institutional-level, or other data linkage across two or more databases. The methods of linkage and methods of linkage quality evaluation should be provided.	page 5 and 6 - METHODS, in- text reference: "Patient- level"
Results	1	r			1
Participants	13	(a)Report the numbers of individuals at each stage of the study ( <i>e.g.</i> , numbers potentially eligible, examined for eligibility, confirmed	Figure 1	RECORD 13.1: Describe in detail the selection of the persons included in the study ( <i>i.e.</i> , study population selection) including filtering based on data quality,	Figure 1

	1	· · · · · · · · · ·			
		eligible, included in the		data availability and linkage. The	
		study, completing follow-up,		selection of included persons can	
		and analysed)		be described in the text and/or by	
				means of the study flow diagram.	
		(b)Give reasons for non-			
		participation at each stage.			
		(c) Consider use of a flow			
		diagram			
Descriptive	14	(a)Give characteristics of	Page 8-		
data		study participants (e.g.,	RESULTS, in-text		
		demographic, clinical, social)	reference: "There		
		and information on exposures	were significant		
		and potential confounders	differences		
			between"		
		(b) Indicate the number of	page 6 -		
		participants with missing	METHODS in-text		
		data for each variable of	reference <sup>•</sup> " and		
		interest	those with		
			missing"		
Outcome data	15	Cohort study - Report	Page 9 and 10 -		
		numbers of outcome events	RESULTS, in-text		
		or summary measures over	reference <sup>•</sup> "As		
		time	shown in Table		
		Case-control study - Report	2 "		
		numbers in each exposure	2		
		category or summary			
		measures of exposure			
		Cross-sectional study -			
		Report numbers of outcome			
		avents or summers massures			
		cvents of summary measures			

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included	RESULTS, page 5, in-text reference: <i>"As shown in Table</i> 2" and Table 2		
Other analyses	17	Report other analyses done— e.g., analyses of subgroups and interactions, and sensitivity analyses	n/a		
Discussion	1				1
Key results	18	Summarise key results with reference to study objectives	Page 10 and 11 - DISCUSSION, in- text reference: <i>"The study sought</i> to evaluate"		
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Page 12 - DISCUSSION, in- text reference: "Some limitations in the current study"	RECORD 19.1: Discuss the implications of using data that were not created or collected to answer the specific research question(s). Include discussion of misclassification bias, unmeasured confounding, missing data, and changing eligibility over time, as they pertain to the study being reported.	Page 12 - DISCUSSION, in-text reference: "Some limitations in the current study"
Interpretation	20	Give a cautious overall interpretation of results	Page 12 an 13 - CONCLUSION,		

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		considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence			
Generalisabilit y	21	Discuss the generalisability (external validity) of the study results	Page 12 and 13 - CONCLUSION		

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