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The following report contains a description of the request, request specifications, and results from the modular program run(s).

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Overview for Request cder_mpl1r_wp045_nsdp_v01

Request ID: cder_mpl1r_wp045_nsdp_v01

Request Description: This report contains estimates of atypical and typical antipsychotics and Selective Serotonin Reuptake Inhibitors (SSRIs) users with subsequent ischemic stroke or intracranial hemorrhage. This report also contains baseline characteristics of atypical and typical antipsychotics users with and without prior SSRI use.

Sentinel Modular Program Tool Used: Cohort Identification and Descriptive Analysis (CIDA) tool, version 3.3.2

Data Source: The query was run against the Sentinel Distributed Database (SDD) for the time period from January 1, 2001 to September 30, 2015. The request was distributed to 16 Data Partners on December 23, 2016. See Appendix A for a list of the latest dates of available data for each Data Partner.

Study Design: This request was designed to identify occurrences of the exposures of interest and occurrences of the health outcomes of interest during exposed time. The number of patients who met the cohort eligibility criteria and the number of member-years that those patients contributed to the study period were calculated. Among those eligible patients, the number of patients with the exposure of interest and the number of exposed patients with the health outcome of interest were calculated. This request also evaluated the distribution of baseline covariates for exposed patients. A list of diagnosis and procedure codes used to define covariates can be found in Appendix B and a list of generic and brand names used to define covariates can be found in Appendix C.

Exposures of Interest: The exposures of interest were atypical and typical antipsychotics, SSRI only use and concomitant atypical antipsychotic and SSRI use. Nine exposure cohorts were examined separately: 1) Typical antipsychotics; 2) Haloperidol only; 3) Atypical antipsychotics; 4) SSRIs only, excluding antipsychotic-SSRI combination National Drug Codes (NDCs); 5) Olanzapine with SSRI use within 60 days prior to index (i.e., the date of the exposure of interest); 6) Quetiapine with SSRI use within 60 days prior to index; 7) Risperidone with SSRI use within 60 days prior to index; 8) Aripirazole with SSRI use within 60 days prior to index; and 9) Olanzapine with fluoxetine use within 60 days prior to index. A list of generic and brand names used to define drug exposures can be found in Appendix D.

Cohort Eligibility Criteria: Patients were required to be continuously enrolled in plans with both medical and drug coverage for 183 days before their exposure date, during which gaps in coverage of up to 45 days were allowed. Patients were required to have had no evidence of atypical or typical antipsychotic use in the 183 days prior to the index date. For cohort 4 (SSRIs only, excluding antipsychotic-SSRI combination NDCs), patients were also required to have had no evidence of SSRI use in the 183 days prior to the index date.

Follow-Up Time: Follow-up began one day after the exposure of interest occurred due to a blackout period of one day, and continued until the first occurrence of any of the following: 1) disenrollment; 2) the study end date (September 30, 2015); 3) the end date of the data provided by each Data Partner (see Appendix A); 4) the end of the exposure episode; 5) the occurrence of atypical and/or typical antipsychotic incidence criteria; or 6) the occurrence of the health outcome of interest. Exposure episodes were created based on pharmacy dispensings days supplied. Multiple exposure episodes were bridged into one exposure episode if they occurred within 30 days of each other. An exposure extension period of 30 days was added onto the end of each exposure episode length after the gaps were bridged. Only the first valid exposure episode per patient that occurred during the study period was included.

Health Outcomes of Interest: Two outcomes of interest were examined: ischemic stroke and intracranial hemorrhage, which were defined by International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis codes. Please see Appendix E for a list of ICD-9-CM codes. Only diagnoses that occurred in the inpatient setting with a principal diagnosis indicator were included. Patients were required to have had no evidence of ischemic stroke and intracranial hemorrhage in the 60 days prior to the index date.

Limitations: Algorithms used to define exposures and outcomes are imperfect; thus, it is possible that there may be misclassification.

Please see the Appendix F for the specifications of parameters used in the analyses for this request.

Notes: Please contact the Sentinel Operations Center Query Fulfillment Team (qf@sentinelssystem.org) for questions and to provide comments/suggestions for future enhancements to this document.

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Glossary of Terms for Analyses Using Cohort Identification and Descriptive Analysis (CIDA) Tool*

Amount Supplied - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing. This is equivalent to the "RxAmt" value in the Sentinel Common Data Model.

Blackout Period - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). Along with the Principal Diagnosis Indicator, forms the Care Setting/PDX parameter.

Ambulatory Visit (AV) - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

Emergency Department (ED) - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

Inpatient Hospital Stay (IP) - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

Non-Acute Institutional Stay (IS) - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

Other Ambulatory Visit (OA) - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

Cohort Definition (drug/exposure) - indicates how the cohort will be defined: (1) 01: Cohort includes only the first valid treatment episode during the query period; (2) 02: Cohort includes all valid treatment episodes during the query period; (3) 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

Days Supplied - number of days supplied for all dispensings in qualifying treatment episodes.

Episodes - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

Eligible Members - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

Enrollment Gap - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.

Episode Gap - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

Event Deduplication - specifies how events are counted by the MP algorithm: (0) 0: Counts all occurrences of an HOI during an exposure episode; (1) 1: de-duplicates occurrences of the same HOI code and code type on the same day; (2) 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

Exposure Extension Period - number of days post treatment period in which the outcomes/events are counted for a treatment episode.

Exposure Episode Length - number of days after exposure initiation that is considered "exposed time."

Lookback Period (pre-existing condition) - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

Member-Years - sum of all days of enrollment with medical and drug coverage** in the query period preceded by an exposure washout period all divided by 365.25.

Minimum Days Supplied - specifies a minimum number of days in length of the days supplied for the episode to be considered.

Minimum Episode Duration - specifies a minimum number of days in length of the episode for it to be considered.

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

Query Period - period in which the modular program looks for exposures and outcomes of interest.

Treatment Episode Truncation Indicator - indicates whether observation of the incident query code during follow-up requires truncation of valid treatment episodes. A value of Y indicates that the treatment episodes should be truncated at the first occurrence of an incident query code. A value of N indicates that the treatment episodes should not be truncated at the occurrence of the incident query code.

Users - number of members with exposure during the query period. Member must have no evidence of exposure(s) of interest (defined by incidence criteria) in the prior washout period. A user may only be counted once in a query period.

Washout Period (drug/exposure)** - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

Years at Risk - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

*all terms may not be used in this report

**incident treatment episodes must be incident to both the exposure and the event

Table 1a: Baseline Characteristics of Patients Exposed to Atypical or Typical Antipsychotics with or without Selective Serotonin Reuptake Inhibitors (SSRIs) from January 1, 2001 to September 30, 2015, by Exposure (Scenarios with Outcome = Ischemic Stroke)

		Typical Antipsychotics		Haloperidol		Atypical Antipsychotics		SSRI only		Olanzapine + SSRI		Quetiapine + SSRI		Risperidone + SSRI		Aripiprazole + SSRI		Olanzapine + Fluoxetine	
		N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std
Characteristic	Number of patients	148,229		81,883		1,241,864		7,069,928		86,811		234,760		111,168		145,996		33,897	
	Number of outcomes while on therapy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Person-days at risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patient Characteristics	Age	62.4	18.3	70	17.9	48.6	19	45.6	16.1	48.9	18.5	48.5	18.3	51.1	20	43.6	14.7	45.6	16.6
	18-39	24,654	16.6%	8,590	10.5%	474,808	38.2%	2,901,349	41.0%	31,703	36.5%	88,601	37.7%	39,449	35.5%	61,616	42.2%	13,919	41.1%
	40-54	29,237	19.7%	9,914	12.1%	348,067	28.0%	2,192,793	31.0%	25,488	29.4%	68,868	29.3%	28,231	25.4%	49,867	34.2%	10,753	31.7%
	55+	94,338	63.6%	63,379	77.4%	418,989	33.7%	1,975,786	27.9%	29,620	34.1%	77,291	32.9%	43,488	39.1%	34,513	23.6%	9,225	27.2%
	Gender (Ambiguous)	2	0.0%	2	0.0%	4	0.0%	7	0.0%	-	0.0%	2	0.0%	-	0.0%	-	0.0%	-	0.0%
	Gender (Female)	71,550	48.3%	45,671	55.8%	756,054	60.9%	4,794,245	67.8%	54,359	62.6%	151,274	64.4%	70,384	63.3%	101,420	69.5%	21,289	62.8%
	Gender (Male)	76,665	51.7%	36,199	44.2%	485,738	39.1%	2,275,339	32.2%	32,451	37.4%	83,473	35.6%	40,772	36.7%	44,571	30.5%	12,608	37.2%
	Gender (Unknown)	12	0.0%	11	0.0%	68	0.0%	337	0.0%	1	0.0%	11	0.0%	12	0.0%	5	0.0%	-	0.0%
Recorded history of:	Combined comorbidity index	2.9	3.2	3.9	3.5	1.4	1.9	0.4	1.4	1.4	2	1.4	1.9	1.6	2	1	1.4	1.1	1.7
Medical Conditions	Acute Myocardial Infarction	11,227	7.6%	8,447	10.3%	36,416	2.9%	124,763	1.8%	2,648	3.1%	7,196	3.1%	3,996	3.6%	2,051	1.4%	780	2.3%
	Diabetes	31,619	21.3%	19,554	23.9%	154,252	12.4%	661,690	9.4%	9,921	11.4%	29,765	12.7%	16,858	15.2%	15,298	10.5%	3,385	10.0%
	Heart Failure	18,954	12.8%	15,586	19.0%	63,400	5.1%	166,463	2.4%	4,689	5.4%	11,927	5.1%	7,549	6.8%	2,847	2.0%	1,122	3.3%
	Hypercholesterolemia	47,336	31.9%	27,506	33.6%	283,670	22.8%	1,400,527	19.8%	18,609	21.4%	56,774	24.2%	27,010	24.3%	33,034	22.6%	6,799	20.1%
	Hypertension	70,546	47.6%	44,579	54.4%	383,517	30.9%	1,629,328	23.0%	26,929	31.0%	76,992	32.8%	39,478	35.5%	36,362	24.9%	9,020	26.6%
	Kidney Failure (acute or chronic)	23,285	15.7%	18,059	22.1%	71,968	5.8%	191,142	2.7%	4,325	5.0%	13,741	5.9%	7,729	7.0%	3,689	2.5%	1,096	3.2%
	Obesity	12,813	8.6%	7,406	9.0%	94,530	7.6%	473,548	6.7%	5,857	6.7%	19,296	8.2%	9,457	8.5%	13,708	9.4%	2,506	7.4%
	Transient Ischemic Attack	2,864	1.9%	2,135	2.6%	14,457	1.2%	41,450	0.6%	1,023	1.2%	2,937	1.3%	1,653	1.5%	845	0.6%	309	0.9%
Psychiatric Conditions	Anxiety	28,089	18.9%	15,204	18.6%	428,685	34.5%	1,391,114	19.7%	34,705	40.0%	104,802	44.6%	44,398	39.9%	61,860	42.4%	12,572	37.1%
	Bipolar	14,052	9.5%	6,167	7.5%	285,475	23.0%	155,880	2.2%	19,198	22.1%	47,434	20.2%	22,946	20.6%	32,970	22.6%	8,012	23.6%
	Depression	37,324	25.2%	21,020	25.7%	594,818	47.9%	1,513,202	21.4%	49,100	56.6%	142,918	60.9%	65,233	58.7%	95,678	65.5%	18,429	54.4%
	Post Traumatic Stress Disorder	2,920	2.0%	1,043	1.3%	56,799	4.6%	65,850	0.9%	4,020	4.6%	14,912	6.4%	6,793	6.1%	7,923	5.4%	1,343	4.0%
	Schizophrenia/ Psychotic Disorder	18,265	12.3%	13,103	16.0%	130,941	10.5%	47,537	0.7%	9,604	11.1%	17,608	7.5%	16,889	15.2%	6,879	4.7%	2,496	7.4%
	Substance Abuse	16,489	11.1%	9,331	11.4%	208,537	16.8%	285,839	4.0%	15,134	17.4%	51,450	21.9%	18,276	16.4%	18,517	12.7%	5,244	15.5%
History of use:	Angiotensin- converting enzyme (ACE) inhibitors	31,640	21.3%	19,091	23.3%	167,513	13.5%	790,418	11.2%	12,283	14.1%	34,256	14.6%	18,373	16.5%	16,780	11.5%	4,158	12.3%
	Antiarrhythmics	2,866	1.9%	1,932	2.4%	11,568	0.9%	51,719	0.7%	920	1.1%	2,224	0.9%	1,261	1.1%	881	0.6%	236	0.7%
	Anticoagulant (Non-Oral)	6,848	4.6%	4,433	5.4%	17,633	1.4%	67,356	1.0%	1,419	1.6%	3,386	1.4%	1,700	1.5%	1,457	1.0%	373	1.1%
	Anticoagulant (Oral)	13,051	8.8%	9,547	11.7%	45,188	3.6%	167,175	2.4%	3,290	3.8%	8,684	3.7%	4,990	4.5%	2,860	2.0%	875	2.6%
	Beta Blockers	35,762	24.1%	23,765	29.0%	178,155	14.3%	750,023	10.6%	12,888	14.8%	37,564	16.0%	18,554	16.7%	17,015	11.7%	4,294	12.7%
	Statins	39,050	26.3%	23,511	28.7%	217,765	17.5%	1,034,114	14.6%	14,849	17.1%	45,771	19.5%	22,713	20.4%	25,372	17.4%	5,237	15.4%

Table 1a: Baseline Characteristics of Patients Exposed to Atypical or Typical Antipsychotics with or without Selective Serotonin Reuptake Inhibitors (SSRIs) from January 1, 2001 to September 30, 2015, by Exposure (Scenarios with Outcome = Ischemic Stroke)

		Typical Antipsychotics		Haloperidol		Atypical Antipsychotics		SSRI only		Olanzapine + SSRI		Quetiapine + SSRI		Risperidone + SSRI		Aripiprazole + SSRI		Olanzapine + Fluoxetine	
		N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std	N Mean	% Std
Health Service Utilization Intensity	Number of ambulatory encounters (AV)	11.5	12.7	11.6	12.8	9.9	10.8	6.4	7.9	10.2	10.8	10.9	10.9	10.1	10.9	11.2	11	9.5	9.9
	Number of emergency room encounters (ED)	1.0	1.7	1.2	1.8	0.7	1.5	0.3	0.9	0.9	1.8	0.9	1.7	0.9	1.7	0.5	1.2	0.8	1.6
	Number of inpatient hospital encounters (IP)	0.7	1.2	0.9	1.3	0.4	0.9	0.1	0.5	0.5	1	0.4	0.9	0.5	0.9	0.2	0.7	0.3	0.8
	Number of non-acute institutional encounters (IS)	0.3	1.0	0.4	1.2	0.2	0.8	0	0.4	0.2	0.7	0.2	0.8	0.2	0.9	0.1	0.5	0.1	0.6
	Number of other ambulatory encounters (OA)	6.4	9.9	9.1	11.6	2.6	5.8	1.6	4.0	2.4	5.7	2.9	6.1	3.1	6.4	2.2	5.1	2	4.8
	Number of filled prescriptions	21.1	19.1	22.7	19.5	18.9	18.1	9.9	11.8	23.1	21.3	22.7	19.4	21.5	19.9	20.7	16.6	20.5	19.6
	Number of generics	9.0	6.5	9.7	6.7	7.4	5.7	4.5	4.2	8.9	6.5	8.9	5.9	8.2	5.9	7.9	5.2	8.2	6.2
	Number of unique drug classes	8.1	5.6	8.8	5.7	6.8	4.9	4.1	3.8	7.9	5.4	8.0	5.0	7.5	5.1	7.2	4.6	7.3	5.2

Note: Continuous variables are presented as mean (std) and categorical variables are presented as n (%)

Table 1b: Baseline Characteristics of Patients Exposed to Atypical or Typical Antipsychotics with or without Selective Serotonin Reuptake Inhibitors (SSRIs) from January 1, 2001 to September 30, 2015, by Exposure (Scenarios with Outcome = Intracranial Hemorrhage)

		Typical Antipsychotics		Haloperidol		Atypical Antipsychotics		SSRI only		Olanzapine + SSRI		Quetiapine + SSRI		Risperidone + SSRI		Aripiprazole + SSRI		Olanzapine + Fluoxetine										
		N	Mean %	Std	N	Mean %	Std	N	Mean %	Std	N	Mean %	Std	N	Mean %	Std	N	Mean %	Std	N	Mean %	Std						
Characteristic	Number of patients	148,232			81,885			1,241,877			7,069,948			86,813			234,765			111,172			145,996			33,897		
	Number of outcomes while on therapy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Person time at risk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Patient Characteristics	Age	62.4	18.3		70	17.9		48.6	19		45.6	16.1		48.9	18.5		48.5	18.3		51.1	20		43.6	14.7		45.6	16.6	
	18-39	24,654	16.6%		8,590	10.5%		474,808	38.2%		2,901,349	41.0%		31,703	36.5%		88,602	37.7%		39,449	35.5%		61,616	42.2%		13,919	41.1%	
	40-54	29,237	19.7%		9,914	12.1%		348,067	28.0%		2,192,797	31.0%		25,488	29.4%		68,868	29.3%		28,231	25.4%		49,867	34.2%		10,753	31.7%	
	55+	94,341	63.6%		63,381	77.4%		419,002	33.7%		1,975,802	27.9%		29,622	34.1%		77,295	32.9%		43,492	39.1%		34,513	23.6%		9,225	27.2%	
	Gender (Ambiguous)	2	0.0%		2	0.0%		4	0.0%		7	0.0%		-	0.0%		2	0.0%		-	0.0%		-	0.0%		-	0.0%	
	Gender (Female)	71,550	48.3%		45,671	55.8%		756,062	60.9%		4,794,259	67.8%		54,361	62.6%		151,278	64.4%		70,386	63.3%		101,420	69.5%		21,289	62.8%	
	Gender (Male)	76,668	51.7%		36,201	44.2%		485,743	39.1%		2,275,345	32.2%		32,451	37.4%		83,474	35.6%		40,774	36.7%		44,571	30.5%		12,608	37.2%	
	Gender (Unknown)	12	0.0%		11	0.0%		68	0.0%		337	0.0%		1	0.0%		11	0.0%		12	0.0%		5	0.0%		-	0.0%	
Recorded history of:	Combined comorbidity index	2.9	3.2		3.9	3.5		1.4	1.9		0.4	1.4		1.4	2		1.4	1.9		1.6	2		1	1.4		1.1	1.7	
Medical Conditions	Acute Myocardial Infarction	11,227	7.6%		8,447	10.3%		36,418	2.9%		124,765	1.8%		2,648	3.1%		7,197	3.1%		3,997	3.6%		2,051	1.4%		780	2.3%	
	Diabetes	31,618	21.3%		19,553	23.9%		154,255	12.4%		661,695	9.4%		9,921	11.4%		29,767	12.7%		16,859	15.2%		15,298	10.5%		3,385	10.0%	
	Heart Failure	18,955	12.8%		15,587	19.0%		63,403	5.1%		166,465	2.4%		4,689	5.4%		11,928	5.1%		7,551	6.8%		2,847	2.0%		1,122	3.3%	
	Hypercholesterolemia	47,338	31.9%		27,507	33.6%		283,671	22.8%		1,400,533	19.8%		18,609	21.4%		56,775	24.2%		27,010	24.3%		33,034	22.6%		6,799	20.1%	
	Hypertension	70,548	47.6%		44,581	54.4%		383,523	30.9%		1,629,337	23.0%		26,930	31.0%		76,994	32.8%		39,480	35.5%		36,362	24.9%		9,020	26.6%	
	Kidney Failure (acute or chronic)	23,286	15.7%		18,060	22.1%		71,971	5.8%		191,143	2.7%		4,325	5.0%		13,742	5.9%		7,730	7.0%		3,689	2.5%		1,096	3.2%	
	Obesity	12,814	8.6%		7,406	9.0%		94,531	7.6%		473,550	6.7%		5,857	6.7%		19,296	8.2%		9,458	8.5%		13,708	9.4%		2,506	7.4%	
	Transient Ischemic Attack	2,864	1.9%		2,135	2.6%		14,459	1.2%		41,451	0.6%		1,024	1.2%		2,938	1.3%		1,653	1.5%		845	0.6%		309	0.9%	
Psychiatric Conditions	Anxiety	28,089	18.9%		15,204	18.6%		428,687	34.5%		1,391,118	19.7%		34,705	40.0%		104,802	44.6%		44,399	39.9%		61,860	42.4%		12,572	37.1%	
	Bipolar	14,052	9.5%		6,167	7.5%		285,476	23.0%		155,880	2.2%		19,198	22.1%		47,434	20.2%		22,946	20.6%		32,970	22.6%		8,012	23.6%	
	Depression	37,324	25.2%		21,020	25.7%		594,823	47.9%		1,513,208	21.4%		49,101	56.6%		142,920	60.9%		65,234	58.7%		95,678	65.5%		18,429	54.4%	
	Post Traumatic Stress Disorder	2,920	2.0%		1,043	1.3%		56,799	4.6%		65,850	0.9%		4,020	4.6%		14,912	6.4%		6,793	6.1%		7,923	5.4%		1,343	4.0%	
	Schizophrenia/ Psychotic Disorder	18,265	12.3%		13,103	16.0%		130,943	10.5%		47,538	0.7%		9,604	11.1%		17,608	7.5%		16,890	15.2%		6,879	4.7%		2,496	7.4%	
	Substance Abuse	16,490	11.1%		9,332	11.4%		208,538	16.8%		285,840	4.0%		15,134	17.4%		51,450	21.9%		18,276	16.4%		18,517	12.7%		5,244	15.5%	
History of use:	Angiotensin- converting enzyme (ACE) inhibitors	31,641	21.3%		19,092	23.3%		167,519	13.5%		790,423	11.2%		12,284	14.1%		34,259	14.6%		18,374	16.5%		16,780	11.5%		4,158	12.3%	
	Antiarrhythmics	2,866	1.9%		1,932	2.4%		11,568	0.9%		51,718	0.7%		920	1.1%		2,224	0.9%		1,261	1.1%		881	0.6%		236	0.7%	
	Anticoagulant (Non-Oral)	6,848	4.6%		4,433	5.4%		17,633	1.4%		67,355	1.0%		1,419	1.6%		3,386	1.4%		1,700	1.5%		1,457	1.0%		373	1.1%	
	Anticoagulant (Oral)	13,052	8.8%		9,548	11.7%		45,188	3.6%		167,178	2.4%		3,290	3.8%		8,684	3.7%		4,990	4.5%		2,860	2.0%		875	2.6%	
	Beta Blockers	35,764	24.1%		23,767	29.0%		178,158	14.3%		750,025	10.6%		12,888	14.8%		37,565	16.0%		18,555	16.7%		17,015	11.7%		4,294	12.7%	
	Statins	39,050	26.3%		23,511	28.7%		217,769	17.5%		1,034,119	14.6%		14,850	17.1%		45,772	19.5%		22,715	20.4%		25,372	17.4%		5,237	15.4%	

Table 1b: Baseline Characteristics of Patients Exposed to Atypical or Typical Antipsychotics with or without Selective Serotonin Reuptake Inhibitors (SSRIs) from January 1, 2001 to September 30, 2015, by Exposure (Scenarios with Outcome = Intracranial Hemorrhage)

		Typical Antipsychotics		Haloperidol		Atypical Antipsychotics		SSRI only		Olanzapine + SSRI		Quetiapine + SSRI		Risperidone + SSRI		Aripiprazole + SSRI		Olanzapine + Fluoxetine																			
		N	Mean	%	Std	N	Mean	%	Std	N	Mean	%	Std	N	Mean	%	Std	N	Mean	%	Std	N	Mean	%	Std												
Health Service Utilization Intensity	Number of ambulatory encounters (AV)		11.5		12.7		11.6		12.8		9.9		10.8		6.4		7.9		10.2		10.8		10.9		10.9		10.1		10.9		11.2		11.0		9.5		9.9
	Number of emergency room encounters (ED)		1.0		1.7		1.2		1.8		0.7		1.5		0.3		0.9		0.9		1.8		0.9		1.7		0.9		1.7		0.5		1.2		0.8		1.6
	Number of inpatient hospital encounters (IP)		0.7		1.2		0.9		1.3		0.4		0.9		0.1		0.5		0.5		1		0.4		0.9		0.5		0.9		0.2		0.7		0.3		0.8
	Number of non-acute institutional encounters (IS)		0.3		1.0		0.4		1.2		0.2		0.8		0		0.4		0.2		0.7		0.2		0.8		0.2		0.9		0.1		0.5		0.1		0.6
	Number of other ambulatory encounters (OA)		6.4		9.9		9.1		11.6		2.6		5.8		1.6		4.0		2.4		5.7		2.9		6.1		3.1		6.4		2.2		5.1		2.0		4.8
	Number of filled prescriptions		21.1		19.1		22.7		19.5		18.9		18.1		9.9		11.8		23.1		21.3		22.7		19.4		21.5		19.9		20.7		16.6		20.5		19.6
	Number of generics		9.0		6.5		9.7		6.7		7.4		5.7		4.5		4.2		8.9		6.5		8.9		5.9		8.2		5.9		7.9		5.2		8.2		6.2
	Number of unique drug classes		8.1		5.6		8.8		5.7		6.8		4.9		4.1		3.8		7.9		5.4		8.0		5.0		7.5		5.1		7.2		4.6		7.3		5.2

Note: Continuous variables are presented as mean (std) and categorical variables are presented as n (%)

Table 2a: Haloperidol Use by Strength of Dispensing from Index Date (Scenario with Outcome = Ischemic Stroke)

	Haloperidol	
	N	%
Haloperidol Low (0.5-2 mg)	55,087	67.3%
Haloperidol Medium (5-10 mg)	11,749	14.3%
Haloperidol High (20 mg)	104	0.1%
Haloperidol Liquid	15,314	18.7%

Table 2b: Haloperidol Use by Strength of Dispensing from Index Date (Scenario with Outcome = Intracranial Hemorrhage)

	Haloperidol	
	N	%
Haloperidol Low (0.5-2 mg)	55,089	67.3%
Haloperidol Medium (5-10 mg)	11,749	14.3%
Haloperidol High (20 mg)	104	0.1%
Haloperidol Liquid	15,314	18.7%

Table 3a: Baseline Stroke and Selective Serotonin Reuptake Inhibitor (SSRI) Dispensing of Exposed Patients at -183 to -61 Days Prior to Index Date (Scenarios with Outcome = Ischemic Stroke)

	Typical Antipsychotics		Haloperidol		Atypical Antipsychotics		SSRI only		Olanzapine + SSRI		Quetiapine + SSRI		Risperidone + SSRI		Aripiprazole + SSRI		Olanzapine + Fluoxetine	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Stroke	3,218	2.2%	2,404	2.9%	16,549	1.3%	40,131	0.6%	1,231	1.4%	3,305	1.4%	2,028	1.8%	929	0.6%	330	1.0%
SSRI	29,677	20.0%	17,784	21.7%	412,230	33.2%	33	0.0%	50,353	58.0%	157,589	67.1%	71,116	64.0%	112,752	77.2%	16,833	49.7%

* Please note that due to an algorithm limitation when identifying baseline covariate dispensings, Tables 1-3 potentially included antipsychotic and SSRI initiators who had dispensings with zero-day supply or zero-amount supplied. This would explain the non-zero baseline SSRI use in the SSRI-only scenarios. This only affects covariate identifications, and standard Level 1 request output, such as Table 4, is not affected by this issue.

Table 3b: Baseline Stroke and Selective Serotonin Reuptake Inhibitor (SSRI) Dispensing of Exposed Patients at -183 to -61 Days Prior to Index Date (Scenarios with Outcome = Intracranial Hemorrhage)

	Typical Antipsychotics		Haloperidol		Atypical Antipsychotics		SSRI only		Olanzapine + SSRI		Quetiapine + SSRI		Risperidone + SSRI		Aripiprazole + SSRI		Olanzapine + Fluoxetine	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Stroke	3,219	2.2%	2,405	2.9%	16,551	1.3%	40,135	0.6%	1,232	1.4%	3,306	1.4%	2,028	1.8%	929	0.6%	330	1.0%
SSRI	29,677	20.0%	17,784	21.7%	412,233	33.2%	33	0.0%	50,354	58.0%	157,590	67.1%	71,116	64.0%	112,752	77.2%	16,833	49.7%

* Please note that due to an algorithm limitation when identifying baseline covariate dispensings, Tables 1-3 potentially included antipsychotic and SSRI initiators who had dispensings with zero-day supply or zero-amount supplied. This would explain the non-zero baseline SSRI use in the SSRI-only scenarios. This only affects covariate identifications, and standard Level 1 request output, such as Table 4, is not affected by this issue.

Table 4a: Summary of Stroke following Treatment with Atypical or Typical Antipsychotics, with or without Selective Serotonin Reuptake Inhibitors (SSRIs) in the Sentinel Distributed Database between January 1, 2001 and September 30, 2015 by Exposure and Outcome (Scenarios with Outcome = Ischemic Stroke)

	New Users	Dispensings	Days Supplied	Amount Supplied	Years at Risk	New Users w/ Outcome	Eligible Members	Member- Years	New Users / 1K Eligible Members	Days Supplied/ User	Dispensings / User	Days Supplied/ Dispensing	New Users w/ Outcome / 10K Years at Risk
Typical Antipsychotics and Ischemic Stroke													
	148,229	343,197	9,378,548	19,203,352	35,356.6	-	92,070,866	248,793,823.4	1.61	63.27	2.32	27.33	-
Haloperidol and Ischemic Stroke													
	81,883	178,200	4,740,282	8,867,583	17,602.5	-	92,070,867	248,905,461.8	0.89	57.89	2.18	26.60	-
Atypical Antipsychotics and Ischemic Stroke													
	1,241,864	6,109,312	200,008,249	300,496,290	631,084.5	-	92,070,844	247,483,464.9	13.49	161.05	4.92	32.74	-
SSRI only and Ischemic Stroke													
	7,069,928	34,720,384	1,322,739,772	1,490,945,037	4,229,714.8	-	88,658,363	220,610,607.0	79.74	187.09	4.91	38.10	-
Olanzapine/SSRI and Ischemic Stroke													
	86,811	366,124	11,817,447	16,369,716	39,691.5	-	11,985,859	16,899,080.7	7.24	136.13	4.22	32.28	-
Quetiapine/SSRI and Ischemic Stroke													
	234,760	1,081,765	35,789,530	62,263,582	116,921.8	-	11,985,859	16,840,838.4	19.59	152.45	4.61	33.08	-
Risperidone/SSRI and Ischemic Stroke													
	111,168	488,364	16,049,563	23,798,043	53,083.4	-	11,985,859	16,896,037.2	9.27	144.37	4.39	32.86	-
Aripiprazole/SSRI and Ischemic Stroke													
	145,996	565,924	18,458,137	19,113,189	63,353.3	-	11,985,859	16,879,612.3	12.18	126.43	3.88	32.62	-
Olanzapine/Fluoxetine and Ischemic Stroke													
	33,897	135,592	4,486,883	6,120,531	15,185.6	-	2,924,106	3,915,547.5	11.59	132.37	4.00	33.09	-

Table 4b: Summary of Stroke following Treatment with Atypical or Typical Antipsychotics, with or without Selective Serotonin Reuptake Inhibitors (SSRIs) in the Sentinel Distributed Database between January 1, 2001 and September 30, 2015 by Exposure and Outcome (Scenarios with Outcome = Intracranial Hemorrhage)

	New Users	Dispensings	Days Supplied	Amount Supplied	Years at Risk	New Users w/ Outcome	Eligible Members	Member- Years	New Users / 1K Eligible Members	Days Supplied/ User	Dispensings / User	Days Supplied/ Dispensing	New Users w/ Outcome / 10K Years at Risk
Typical Antipsychotics and Intracranial Hemorrhage													
	148,232	343,201	9,378,592	19,203,416	35,429.6	-	92,070,887	248,794,352.1	1.61	63.27	2.32	27.33	-
Haloperidol and Intracranial Hemorrhage													
	81,885	178,203	4,740,321	8,867,637	17,651.3	-	92,070,888	248,905,991.5	0.89	57.89	2.18	26.60	-
Atypical Antipsychotics and Intracranial Hemorrhage													
	1,241,877	6,109,359	200,009,627	300,498,255	632,124.0	-	92,070,865	247,483,995.2	13.49	161.05	4.92	32.74	-
SSRI only and Intracranial Hemorrhage													
	7,069,948	34,720,423	1,322,740,817	1,490,946,083	4,234,589.6	-	88,658,394	220,611,035.3	79.74	187.09	4.91	38.10	-
Olanzapine/SSRI and Intracranial Hemorrhage													
	86,813	366,126	11,817,478	16,369,747	39,767.8	-	11,985,874	16,899,140.5	7.24	136.13	4.22	32.28	-
Quetiapine/SSRI and Intracranial Hemorrhage													
	234,765	1,081,777	35,789,838	62,264,040	117,093.7	-	11,985,874	16,840,898.0	19.59	152.45	4.61	33.08	-
Risperidone/SSRI and Intracranial Hemorrhage													
	111,172	488,396	16,050,666	23,799,545	53,198.0	-	11,985,874	16,896,096.8	9.28	144.38	4.39	32.86	-
Aripiprazole/SSRI and Intracranial Hemorrhage													
	145,996	565,924	18,458,137	19,113,189	63,385.6	-	11,985,874	16,879,672.1	12.18	126.43	3.88	32.62	-
Olanzapine/Fluoxetine and Intracranial Hemorrhage													
	33,897	135,592	4,486,883	6,120,531	15,212.5	-	2,924,109	3,915,560.3	11.59	132.37	4.00	33.09	-

Appendix A: Dates of Available Data for Each Data Partner up to Request End Date (9/30/2015)

DP ID	Start Date	End Date
DP0001	1/1/2008	9/30/2015
DP0002	1/1/2012	9/30/2015
DP0003	1/1/2006	9/30/2015
DP0004	1/1/2004	9/30/2015
DP0005	1/1/2000	9/30/2015
DP0006	1/1/2000	9/30/2015
DP0007	1/1/2000	9/30/2015
DP0008	1/1/2000	9/30/2015
DP0009	1/1/2007	9/30/2015
DP0010	1/1/2000	9/30/2015
DP0011	1/1/2000	5/31/2015
DP0012	1/1/2005	9/30/2015
DP0013	1/1/2000	9/30/2015
DP0014	1/1/2000	9/30/2015
DP0015	1/1/2008	9/30/2015
DP0016	1/1/2000	10/31/2014

Appendix B: List of Diagnosis and Procedure Codes Used to Define Covariates in this Request

Code	Code Type	Description
AMI		
410.0	ICD-9-CM	Acute myocardial infarction of anterolateral wall
410	ICD-9-CM	Acute myocardial infarction
410.00	ICD-9-CM	Acute myocardial infarction of anterolateral wall, episode of care unspecified
410.01	ICD-9-CM	Acute myocardial infarction of anterolateral wall, initial episode of care
410.02	ICD-9-CM	Acute myocardial infarction of anterolateral wall, subsequent episode of care
410.1	ICD-9-CM	Acute myocardial infarction of other anterior wall
410.10	ICD-9-CM	Acute myocardial infarction of other anterior wall, episode of care unspecified
410.11	ICD-9-CM	Acute myocardial infarction of other anterior wall, initial episode of care
410.12	ICD-9-CM	Acute myocardial infarction of other anterior wall, subsequent episode of care
410.2	ICD-9-CM	Acute myocardial infarction of inferolateral wall
410.20	ICD-9-CM	Acute myocardial infarction of inferolateral wall, episode of care unspecified
410.21	ICD-9-CM	Acute myocardial infarction of inferolateral wall, initial episode of care
410.22	ICD-9-CM	Acute myocardial infarction of inferolateral wall, subsequent episode of care
410.30	ICD-9-CM	Acute myocardial infarction of inferoposterior wall, episode of care unspecified
410.3	ICD-9-CM	Acute myocardial infarction of inferoposterior wall
410.31	ICD-9-CM	Acute myocardial infarction of inferoposterior wall, initial episode of care
410.32	ICD-9-CM	Acute myocardial infarction of inferoposterior wall, subsequent episode of care
410.40	ICD-9-CM	Acute myocardial infarction of other inferior wall, episode of care unspecified
410.4	ICD-9-CM	Acute myocardial infarction of other inferior wall
410.41	ICD-9-CM	Acute myocardial infarction of other inferior wall, initial episode of care
410.42	ICD-9-CM	Acute myocardial infarction of other inferior wall, subsequent episode of care
410.5	ICD-9-CM	Acute myocardial infarction of other lateral wall
410.50	ICD-9-CM	Acute myocardial infarction of other lateral wall, episode of care unspecified
410.51	ICD-9-CM	Acute myocardial infarction of other lateral wall, initial episode of care
410.52	ICD-9-CM	Acute myocardial infarction of other lateral wall, subsequent episode of care
410.60	ICD-9-CM	Acute myocardial infarction, true posterior wall infarction, episode of care unspecified
410.6	ICD-9-CM	Acute myocardial infarction, true posterior wall infarction
410.61	ICD-9-CM	Acute myocardial infarction, true posterior wall infarction, initial episode of care
410.62	ICD-9-CM	Acute myocardial infarction, true posterior wall infarction, subsequent episode of care
410.7	ICD-9-CM	Acute myocardial infarction, subendocardial infarction

410.70	ICD-9-CM	Acute myocardial infarction, subendocardial infarction, episode of care unspecified
410.71	ICD-9-CM	Acute myocardial infarction, subendocardial infarction, initial episode of care
410.72	ICD-9-CM	Acute myocardial infarction, subendocardial infarction, subsequent episode of care
410.8	ICD-9-CM	Acute myocardial infarction of other specified sites
410.80	ICD-9-CM	Acute myocardial infarction of other specified sites, episode of care unspecified
410.81	ICD-9-CM	Acute myocardial infarction of other specified sites, initial episode of care
410.82	ICD-9-CM	Acute myocardial infarction of other specified sites, subsequent episode of care
410.9	ICD-9-CM	Acute myocardial infarction, unspecified site
410.90	ICD-9-CM	Acute myocardial infarction, unspecified site, episode of care unspecified
410.91	ICD-9-CM	Acute myocardial infarction, unspecified site, initial episode of care
410.92	ICD-9-CM	Acute myocardial infarction, unspecified site, subsequent episode of care
411	ICD-9-CM	Other acute and subacute forms of ischemic heart disease
411.0	ICD-9-CM	Postmyocardial infarction syndrome
411.1	ICD-9-CM	Intermediate coronary syndrome
411.8	ICD-9-CM	Other acute and subacute forms of ischemic heart disease
411.81	ICD-9-CM	Acute coronary occlusion without myocardial infarction
411.89	ICD-9-CM	Other acute and subacute form of ischemic heart disease
412	ICD-9-CM	Old myocardial infarction
Diabetes		
249	ICD-9-CM	Secondary diabetes mellitus
249.0	ICD-9-CM	Secondary diabetes mellitus without mention of complication
249.00	ICD-9-CM	Secondary diabetes mellitus without mention of complication, not stated as uncontrolled, or unspecified
249.01	ICD-9-CM	Secondary diabetes mellitus without mention of complication, uncontrolled
249.1	ICD-9-CM	Secondary diabetes mellitus with ketoacidosis
249.10	ICD-9-CM	Secondary diabetes mellitus with ketoacidosis, not stated as uncontrolled, or unspecified
249.11	ICD-9-CM	Secondary diabetes mellitus with ketoacidosis, uncontrolled
249.2	ICD-9-CM	Secondary diabetes mellitus with hyperosmolarity
249.20	ICD-9-CM	Secondary diabetes mellitus with hyperosmolarity, not stated as uncontrolled, or unspecified
249.21	ICD-9-CM	Secondary diabetes mellitus with hyperosmolarity, uncontrolled
249.3	ICD-9-CM	Secondary diabetes mellitus with other coma
249.30	ICD-9-CM	Secondary diabetes mellitus with other coma, not stated as uncontrolled, or unspecified

249.31	ICD-9-CM	Secondary diabetes mellitus with other coma, uncontrolled
249.4	ICD-9-CM	Secondary diabetes mellitus with renal manifestations
249.40	ICD-9-CM	Secondary diabetes mellitus with renal manifestations, not stated as uncontrolled, or unspecified
249.41	ICD-9-CM	Secondary diabetes mellitus with renal manifestations, uncontrolled
249.5	ICD-9-CM	Secondary diabetes mellitus with ophthalmic manifestations
249.50	ICD-9-CM	Secondary diabetes mellitus with ophthalmic manifestations, not stated as uncontrolled, or unspecified
249.51	ICD-9-CM	Secondary diabetes mellitus with ophthalmic manifestations, uncontrolled
249.6	ICD-9-CM	Secondary diabetes mellitus with neurological manifestations
249.60	ICD-9-CM	Secondary diabetes mellitus with neurological manifestations, not stated as uncontrolled, or unspecified
249.61	ICD-9-CM	Secondary diabetes mellitus with neurological manifestations, uncontrolled
249.7	ICD-9-CM	Secondary diabetes mellitus with peripheral circulatory disorders
249.70	ICD-9-CM	Secondary diabetes mellitus with peripheral circulatory disorders, not stated as uncontrolled, or unspecified
249.71	ICD-9-CM	Secondary diabetes mellitus with peripheral circulatory disorders, uncontrolled
249.8	ICD-9-CM	Secondary diabetes mellitus with other specified manifestations
249.80	ICD-9-CM	Secondary diabetes mellitus with other specified manifestations, not stated as uncontrolled, or unspecified
249.81	ICD-9-CM	Secondary diabetes mellitus with other specified manifestations, uncontrolled
249.9	ICD-9-CM	Secondary diabetes mellitus with unspecified complication
249.90	ICD-9-CM	Secondary diabetes mellitus with unspecified complication, not stated as uncontrolled, or unspecified
249.91	ICD-9-CM	Secondary diabetes mellitus with unspecified complication, uncontrolled
250	ICD-9-CM	Diabetes mellitus
250.0	ICD-9-CM	Diabetes mellitus without mention of complication
250.00	ICD-9-CM	Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled
250.01	ICD-9-CM	Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled
250.02	ICD-9-CM	Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled
250.03	ICD-9-CM	Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled

250.1	ICD-9-CM	Diabetes with ketoacidosis
250.10	ICD-9-CM	Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled
250.11	ICD-9-CM	Diabetes with ketoacidosis, type I [juvenile type], not stated as uncontrolled
250.12	ICD-9-CM	Diabetes with ketoacidosis, type II or unspecified type, uncontrolled
250.13	ICD-9-CM	Diabetes with ketoacidosis, type I [juvenile type], uncontrolled
250.2	ICD-9-CM	Diabetes with hyperosmolarity
250.20	ICD-9-CM	Diabetes with hyperosmolarity, type II or unspecified type, not stated as uncontrolled
250.21	ICD-9-CM	Diabetes with hyperosmolarity, type I [juvenile type], not stated as uncontrolled
250.22	ICD-9-CM	Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled
250.23	ICD-9-CM	Diabetes with hyperosmolarity, type I [juvenile type], uncontrolled
250.3	ICD-9-CM	Diabetes with other coma
250.30	ICD-9-CM	Diabetes with other coma, type II or unspecified type, not stated as uncontrolled
250.31	ICD-9-CM	Diabetes with other coma, type I [juvenile type], not stated as uncontrolled
250.32	ICD-9-CM	Diabetes with other coma, type II or unspecified type, uncontrolled
250.33	ICD-9-CM	Diabetes with other coma, type I [juvenile type], uncontrolled
250.4	ICD-9-CM	Diabetes with renal manifestations
250.40	ICD-9-CM	Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled
250.41	ICD-9-CM	Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled
250.42	ICD-9-CM	Diabetes with renal manifestations, type II or unspecified type, uncontrolled
250.43	ICD-9-CM	Diabetes with renal manifestations, type I [juvenile type], uncontrolled
250.5	ICD-9-CM	Diabetes with ophthalmic manifestations
250.50	ICD-9-CM	Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled
250.51	ICD-9-CM	Diabetes with ophthalmic manifestations, type I [juvenile type], not stated as uncontrolled
250.52	ICD-9-CM	Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled
250.53	ICD-9-CM	Diabetes with ophthalmic manifestations, type I [juvenile type], uncontrolled
250.6	ICD-9-CM	Diabetes with neurological manifestations
250.60	ICD-9-CM	Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled
250.61	ICD-9-CM	Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled
250.62	ICD-9-CM	Diabetes with neurological manifestations, type II or unspecified type, uncontrolled

250.63	ICD-9-CM	Diabetes with neurological manifestations, type I [juvenile type], uncontrolled
250.7	ICD-9-CM	Diabetes with peripheral circulatory disorders
250.70	ICD-9-CM	Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled
250.71	ICD-9-CM	Diabetes with peripheral circulatory disorders, type I [juvenile type], not stated as uncontrolled
250.72	ICD-9-CM	Diabetes with peripheral circulatory disorders, type II or unspecified type, uncontrolled
250.73	ICD-9-CM	Diabetes with peripheral circulatory disorders, type I [juvenile type], uncontrolled
250.8	ICD-9-CM	Diabetes with other specified manifestations
250.80	ICD-9-CM	Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled
250.81	ICD-9-CM	Diabetes with other specified manifestations, type I [juvenile type], not stated as uncontrolled
250.82	ICD-9-CM	Diabetes with other specified manifestations, type II or unspecified type, uncontrolled
250.83	ICD-9-CM	Diabetes with other specified manifestations, type I [juvenile type], uncontrolled
250.9	ICD-9-CM	Diabetes with unspecified complication
250.90	ICD-9-CM	Diabetes with unspecified complication, type II or unspecified type, not stated as uncontrolled
250.91	ICD-9-CM	Diabetes with unspecified complication, type I [juvenile type], not stated as uncontrolled
250.92	ICD-9-CM	Diabetes with unspecified complication, type II or unspecified type, uncontrolled
250.93	ICD-9-CM	Diabetes with unspecified complication, type I [juvenile type], uncontrolled
357.2	ICD-9-CM	Polyneuropathy in diabetes
362.0	ICD-9-CM	Diabetic retinopathy
362.01	ICD-9-CM	Background diabetic retinopathy
362.02	ICD-9-CM	Proliferative diabetic retinopathy
362.03	ICD-9-CM	Nonproliferative diabetic retinopathy NOS
362.04	ICD-9-CM	Mild nonproliferative diabetic retinopathy
362.05	ICD-9-CM	Moderate nonproliferative diabetic retinopathy
362.06	ICD-9-CM	Severe nonproliferative diabetic retinopathy
362.07	ICD-9-CM	Diabetic macular edema
366.41	ICD-9-CM	Diabetic cataract

Heart Failure

398.91	ICD-9-CM	Rheumatic heart failure (congestive)
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402.01	ICD-9-CM	Malignant hypertensive heart disease with heart failure
402.11	ICD-9-CM	Benign hypertensive heart disease with heart failure
402.91	ICD-9-CM	Hypertensive heart disease, unspecified, with heart failure
404.01	ICD-9-CM	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified
404.03	ICD-9-CM	Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease
404.11	ICD-9-CM	Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified
404.13	ICD-9-CM	Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease
404.91	ICD-9-CM	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I through stage IV, or unspecified
404.93	ICD-9-CM	Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease
428.0	ICD-9-CM	Congestive heart failure, unspecified
428	ICD-9-CM	Heart failure
428.1	ICD-9-CM	Left heart failure
428.20	ICD-9-CM	Unspecified systolic heart failure
428.2	ICD-9-CM	Systolic heart failure
428.21	ICD-9-CM	Acute systolic heart failure
428.22	ICD-9-CM	Chronic systolic heart failure
428.23	ICD-9-CM	Acute on chronic systolic heart failure
428.30	ICD-9-CM	Unspecified diastolic heart failure
428.3	ICD-9-CM	Diastolic heart failure
428.31	ICD-9-CM	Acute diastolic heart failure
428.32	ICD-9-CM	Chronic diastolic heart failure
428.33	ICD-9-CM	Acute on chronic diastolic heart failure
428.40	ICD-9-CM	Unspecified combined systolic and diastolic heart failure
428.4	ICD-9-CM	Combined systolic and diastolic heart failure
428.41	ICD-9-CM	Acute combined systolic and diastolic heart failure
428.42	ICD-9-CM	Chronic combined systolic and diastolic heart failure
428.43	ICD-9-CM	Acute on chronic combined systolic and diastolic heart failure
428.9	ICD-9-CM	Unspecified heart failure

Hypercholesterolemia

272.0	ICD-9-CM	Pure hypercholesterolemia
272.1	ICD-9-CM	Pure hyperglyceridemia
272.2	ICD-9-CM	Mixed hyperlipidemia
272.3	ICD-9-CM	Hyperchylomicronemia
272.4	ICD-9-CM	Other and unspecified hyperlipidemia

Hypertension

362.11	ICD-9-CM	Hypertensive retinopathy
401	ICD-9-CM	Essential hypertension
401.0	ICD-9-CM	Essential hypertension, malignant
401.1	ICD-9-CM	Essential hypertension, benign
401.9	ICD-9-CM	Unspecified essential hypertension
405.0	ICD-9-CM	Secondary hypertension, malignant
405	ICD-9-CM	Secondary hypertension
405.01	ICD-9-CM	Secondary renovascular hypertension, malignant
405.09	ICD-9-CM	Other secondary hypertension, malignant
405.1	ICD-9-CM	Secondary hypertension, benign
405.11	ICD-9-CM	Secondary renovascular hypertension, benign
405.19	ICD-9-CM	Other secondary hypertension, benign
405.9	ICD-9-CM	Unspecified secondary hypertension, unspecified
405.91	ICD-9-CM	Secondary renovascular hypertension, unspecified
405.99	ICD-9-CM	Other secondary hypertension, unspecified
437.2	ICD-9-CM	Hypertensive encephalopathy
402.x	ICD-9-CM	Hypertensive heart disease
403.x	ICD-9-CM	Hypertensive chronic kidney disease
404.x	ICD-9-CM	Hypertensive heart and chronic kidney disease
4050F	CPT Category II	Hypertension plan of care documented as appropriate

Kidney Failure

285.21	ICD-9-CM	Anemia in chronic kidney disease
403.0	ICD-9-CM	Hypertensive chronic kidney disease, malignant
403	ICD-9-CM	Hypertensive chronic kidney disease
403.1	ICD-9-CM	Hypertensive chronic kidney disease, benign
403.9	ICD-9-CM	Hypertensive chronic kidney disease, unspecified
404	ICD-9-CM	Hypertensive heart and chronic kidney disease

404.1	ICD-9-CM	Hypertensive heart and chronic kidney disease, benign
404.9	ICD-9-CM	Hypertensive heart and chronic kidney disease, unspecified
458.21	ICD-9-CM	Hypotension of hemodialysis
584	ICD-9-CM	Acute kidney failure
584.5	ICD-9-CM	Acute kidney failure with lesion of tubular necrosis
584.6	ICD-9-CM	Acute kidney failure with lesion of renal cortical necrosis
584.7	ICD-9-CM	Acute kidney failure with lesion of medullary [papillary] necrosis
584.8	ICD-9-CM	Acute kidney failure with other specified pathological lesion in kidney
584.9	ICD-9-CM	Acute kidney failure, unspecified
585	ICD-9-CM	Chronic kidney disease (CKD)
585.1	ICD-9-CM	Chronic kidney disease, Stage I
585.2	ICD-9-CM	Chronic kidney disease, Stage II (mild)
585.3	ICD-9-CM	Chronic kidney disease, Stage III (moderate)
585.4	ICD-9-CM	Chronic kidney disease, Stage IV (severe)
585.5	ICD-9-CM	Chronic kidney disease, Stage V
585.6	ICD-9-CM	End stage renal disease
585.9	ICD-9-CM	Chronic kidney disease, unspecified
586	ICD-9-CM	Unspecified renal failure
588.81	ICD-9-CM	Secondary hyperparathyroidism (of renal origin)
588.89	ICD-9-CM	Other specified disorders resulting from impaired renal function
639.3	ICD-9-CM	Complications following abortion and ectopic and molar pregnancies, kidney failure
669.3	ICD-9-CM	Acute kidney failure following labor and delivery
669.32	ICD-9-CM	Acute kidney failure following labor and delivery, delivered, with mention of postpartum complication
996.56	ICD-9-CM	Mechanical complications due to peritoneal dialysis catheter
996.68	ICD-9-CM	Infection and inflammatory reaction due to peritoneal dialysis catheter
996.73	ICD-9-CM	Other complications due to renal dialysis device, implant, and graft
G8771	HCPCS	Documentation of diagnosis of chronic kidney disease
V42.0	ICD-9-CM	Kidney replaced by transplant
V45.1	ICD-9-CM	Renal dialysis status
V56	ICD-9-CM	Encounter for dialysis and dialysis catheter care
Obesity		
278.0	ICD-9-CM	Overweight and obesity
278.00	ICD-9-CM	Obesity, unspecified

278.01	ICD-9-CM	Morbid obesity
278.02	ICD-9-CM	Overweight
278.03	ICD-9-CM	Obesity hypoventilation syndrome
783.1	ICD-9-CM	Abnormal weight gain
793.91	ICD-9-CM	Image test inconclusive due to excess body fat
V85.3	ICD-9-CM	Body mass index between 30-39 adult
V85.4	ICD-9-CM	Body mass index 40 and over adult
V85.54	ICD-9-CM	Body Mass Index, pediatric, greater than or equal to 95th percentile for age
Stroke		
430	ICD-9-CM	Subarachnoid hemorrhage
431	ICD-9-CM	Intracerebral hemorrhage
432	ICD-9-CM	Other and unspecified intracranial hemorrhage
432.0	ICD-9-CM	Nontraumatic extradural hemorrhage
432.1	ICD-9-CM	Subdural hemorrhage
432.9	ICD-9-CM	Unspecified intracranial hemorrhage
433.01	ICD-9-CM	Occlusion and stenosis of basilar artery with cerebral infarction
433.11	ICD-9-CM	Occlusion and stenosis of carotid artery with cerebral infarction
433.21	ICD-9-CM	Occlusion and stenosis of vertebral artery with cerebral infarction
433.31	ICD-9-CM	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction
433.81	ICD-9-CM	Occlusion and stenosis of other specified precerebral artery with cerebral infarction
433.91	ICD-9-CM	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction
434.01	ICD-9-CM	Cerebral thrombosis with cerebral infarction
434.11	ICD-9-CM	Cerebral embolism with cerebral infarction
434.91	ICD-9-CM	Cerebral artery occlusion, unspecified, with cerebral infarction
436	ICD-9-CM	Acute, but ill-defined, cerebrovascular disease
TIA		
435	ICD-9-CM	Transient cerebral ischemia
435.0	ICD-9-CM	Basilar artery syndrome
435.1	ICD-9-CM	Vertebral artery syndrome
435.2	ICD-9-CM	Subclavian steal syndrome
435.3	ICD-9-CM	Vertebrobasilar artery syndrome
435.8	ICD-9-CM	Other specified transient cerebral ischemias
435.9	ICD-9-CM	Unspecified transient cerebral ischemia

Anxiety		
293.84	ICD-9-CM	Anxiety disorder in conditions classified elsewhere
300.0	ICD-9-CM	Anxiety, dissociative and somatoform disorders
300.00	ICD-9-CM	Anxiety state, unspecified
300.01	ICD-9-CM	Anxiety states
300.02	ICD-9-CM	Generalized anxiety disorder
300.09	ICD-9-CM	Other anxiety states
300.10	ICD-9-CM	Hysteria, unspecified
300.2	ICD-9-CM	Phobic disorders
300.20	ICD-9-CM	Phobia, unspecified
300.21	ICD-9-CM	Agoraphobia with panic disorder
300.22	ICD-9-CM	Agoraphobia without mention of panic attacks
300.23	ICD-9-CM	Social phobia
300.29	ICD-9-CM	Other isolated or specific phobias
300.3	ICD-9-CM	Obsessive-compulsive disorders
300.5	ICD-9-CM	Neurasthenia
300.89	ICD-9-CM	Other somatoform disorders
300.9	ICD-9-CM	Unspecified nonpsychotic mental disorder
308.0	ICD-9-CM	Predominant disturbance of emotions
308.1	ICD-9-CM	Predominant disturbance of consciousness
308.2	ICD-9-CM	Predominant psychomotor disturbance
308.3	ICD-9-CM	Other acute reactions to stress
308.4	ICD-9-CM	Mixed disorders as reaction to stress
308.9	ICD-9-CM	Unspecified acute reaction to stress
313.0	ICD-9-CM	Overanxious disorder
313.1	ICD-9-CM	Misery and unhappiness disorder
313.21	ICD-9-CM	Shyness disorder of childhood
313.22	ICD-9-CM	Introverted disorder of childhood
313.3	ICD-9-CM	Relationship problems
313.82	ICD-9-CM	Identity disorder
313.83	ICD-9-CM	Academic underachievement disorder
Bipolar		
296.0	ICD-9-CM	Bipolar I disorder, single manic episode
296.00	ICD-9-CM	Bipolar I disorder, single manic episode, unspecified

296.01	ICD-9-CM	Bipolar I disorder, single manic episode, mild
296.02	ICD-9-CM	Bipolar I disorder, single manic episode, moderate
296.03	ICD-9-CM	Bipolar I disorder, single manic episode, severe, without mention of psychotic behavior
296.04	ICD-9-CM	Bipolar I disorder, single manic episode, severe, specified as with psychotic behavior
296.05	ICD-9-CM	Bipolar I disorder, single manic episode, in partial or unspecified remission
296.06	ICD-9-CM	Bipolar I disorder, single manic episode, in full remission
296.10	ICD-9-CM	Manic disorder, recurrent episode, unspecified
296.11	ICD-9-CM	Manic disorder, recurrent episode, mild
296.12	ICD-9-CM	Manic disorder, recurrent episode, moderate
296.13	ICD-9-CM	Manic disorder, recurrent episode, severe, without mention of psychotic behavior
296.14	ICD-9-CM	Manic disorder, recurrent episode, severe, specified as with psychotic behavior
296.15	ICD-9-CM	Manic disorder, recurrent episode, in partial or unspecified remission
296.16	ICD-9-CM	Manic disorder, recurrent episode, in full remission
296.40	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, unspecified
296.4	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic
296.41	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, mild
296.42	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, moderate
296.43	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, severe, without mention of psychotic behavior
296.44	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, severe, specified as with psychotic behavior
296.45	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, in partial or unspecified remission
296.46	ICD-9-CM	Bipolar I disorder, most recent episode (or current) manic, in full remission
296.50	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, unspecified
296.5	ICD-9-CM	Bipolar I disorder, most recent episode (or current), depressed
296.51	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, mild
296.52	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, moderate
296.53	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, severe, without mention of psychotic behavior
296.54	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, severe, specified as with psychotic behavior
296.55	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, in partial or unspecified remission

296.56	ICD-9-CM	Bipolar I disorder, most recent episode (or current) depressed, in full remission
296.6	ICD-9-CM	Bipolar I disorder, most recent episode (or current), mixed
296.60	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, unspecified
296.61	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, mild
296.62	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, moderate
296.63	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, severe, without mention of psychotic behavior
296.64	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, severe, specified as with psychotic behavior
296.65	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, in partial or unspecified remission
296.66	ICD-9-CM	Bipolar I disorder, most recent episode (or current) mixed, in full remission
296.7	ICD-9-CM	Bipolar I disorder, most recent episode (or current) unspecified
296.8	ICD-9-CM	Other and unspecified bipolar disorders
296.80	ICD-9-CM	Bipolar disorder, unspecified
296.81	ICD-9-CM	Atypical manic disorder
296.82	ICD-9-CM	Atypical depressive disorder
296.89	ICD-9-CM	Other and unspecified bipolar disorders
296.9	ICD-9-CM	Other and unspecified episodic mood disorder
296.90	ICD-9-CM	Unspecified episodic mood disorder
296.99	ICD-9-CM	Other specified episodic mood disorder

Schizophrenia and other psychosis

293.81	ICD-9-CM	Psychotic disorder with delusions in conditions classified elsewhere
293.82	ICD-9-CM	Psychotic disorder with hallucinations in conditions classified elsewhere
295.0	ICD-9-CM	Simple type schizophrenia
295.00	ICD-9-CM	Simple schizophrenia, unspecified condition
295.01	ICD-9-CM	Simple schizophrenia, subchronic condition
295.02	ICD-9-CM	Simple schizophrenia, chronic condition
295.03	ICD-9-CM	Simple schizophrenia, subchronic condition with acute exacerbation
295.04	ICD-9-CM	Simple schizophrenia, chronic condition with acute exacerbation
295.05	ICD-9-CM	Simple schizophrenia, in remission
295.1	ICD-9-CM	Disorganized type schizophrenia
295.10	ICD-9-CM	Disorganized schizophrenia, unspecified condition

295.11	ICD-9-CM	Disorganized schizophrenia, subchronic condition
295.12	ICD-9-CM	Disorganized schizophrenia, chronic condition
295.13	ICD-9-CM	Disorganized schizophrenia, subchronic condition with acute exacerbation
295.14	ICD-9-CM	Disorganized schizophrenia, chronic condition with acute exacerbation
295.15	ICD-9-CM	Disorganized schizophrenia, in remission
295.20	ICD-9-CM	Catatonic schizophrenia, unspecified condition
295.2	ICD-9-CM	Catatonic type schizophrenia
295.21	ICD-9-CM	Catatonic schizophrenia, subchronic condition
295.22	ICD-9-CM	Catatonic schizophrenia, chronic condition
295.23	ICD-9-CM	Catatonic schizophrenia, subchronic condition with acute exacerbation
295.24	ICD-9-CM	Catatonic schizophrenia, chronic condition with acute exacerbation
295.25	ICD-9-CM	Catatonic schizophrenia, in remission
295.30	ICD-9-CM	Paranoid schizophrenia, unspecified condition
295.3	ICD-9-CM	Paranoid type schizophrenia
295.31	ICD-9-CM	Paranoid schizophrenia, subchronic condition
295.32	ICD-9-CM	Paranoid schizophrenia, chronic condition
295.33	ICD-9-CM	Paranoid schizophrenia, subchronic condition with acute exacerbation
295.34	ICD-9-CM	Paranoid schizophrenia, chronic condition with acute exacerbation
295.35	ICD-9-CM	Paranoid schizophrenia, in remission
295.5	ICD-9-CM	Latent schizophrenia
295.50	ICD-9-CM	Latent schizophrenia, unspecified condition
295.51	ICD-9-CM	Latent schizophrenia, subchronic condition
295.52	ICD-9-CM	Latent schizophrenia, chronic condition
295.53	ICD-9-CM	Latent schizophrenia, subchronic condition with acute exacerbation
295.54	ICD-9-CM	Latent schizophrenia, chronic condition with acute exacerbation
295.55	ICD-9-CM	Latent schizophrenia, in remission
295.80	ICD-9-CM	Other specified types of schizophrenia, unspecified condition
295.8	ICD-9-CM	Other specified types of schizophrenia
295.81	ICD-9-CM	Other specified types of schizophrenia, subchronic condition
295.82	ICD-9-CM	Other specified types of schizophrenia, chronic condition
295.83	ICD-9-CM	Other specified types of schizophrenia, subchronic condition with acute exacerbation
295.84	ICD-9-CM	Other specified types of schizophrenia, chronic condition with acute exacerbation
295.85	ICD-9-CM	Other specified types of schizophrenia, in remission
295.90	ICD-9-CM	Unspecified schizophrenia, unspecified condition

295.9	ICD-9-CM	Unspecified schizophrenia
295.91	ICD-9-CM	Unspecified schizophrenia, subchronic condition
295.92	ICD-9-CM	Unspecified schizophrenia, chronic condition
295.93	ICD-9-CM	Unspecified schizophrenia, subchronic condition with acute exacerbation
295.94	ICD-9-CM	Unspecified schizophrenia, chronic condition with acute exacerbation
295.95	ICD-9-CM	Unspecified schizophrenia, in remission
297	ICD-9-CM	Delusional disorders
297.0	ICD-9-CM	Paranoid state, simple
297.1	ICD-9-CM	Delusional disorder
297.2	ICD-9-CM	Paraphrenia
297.3	ICD-9-CM	Shared psychotic disorder
297.8	ICD-9-CM	Other specified paranoid states
297.9	ICD-9-CM	Unspecified paranoid state
298	ICD-9-CM	Other nonorganic psychoses
298.0	ICD-9-CM	Depressive type psychosis
298.1	ICD-9-CM	Excitatory type psychosis
298.2	ICD-9-CM	Reactive confusion
298.3	ICD-9-CM	Acute paranoid reaction
298.4	ICD-9-CM	Psychogenic paranoid psychosis
298.8	ICD-9-CM	Other and unspecified reactive psychosis
298.9	ICD-9-CM	Unspecified psychosis
V11.0	ICD-9-CM	Personal history of schizophrenia

Substance abuse

94.46	ICD-9-CM	Alcoholism counseling
94.53	ICD-9-CM	Referral for alcoholism rehabilitation
94.6	ICD-9-CM	Alcohol and drug rehabilitation and detoxification
94.61	ICD-9-CM	Alcohol rehabilitation
94.62	ICD-9-CM	Alcohol detoxification
94.63	ICD-9-CM	Alcohol rehabilitation and detoxification
94.67	ICD-9-CM	Combined alcohol and drug rehabilitation
94.68	ICD-9-CM	Combined alcohol and drug detoxification
94.69	ICD-9-CM	Combined alcohol and drug rehabilitation and detoxification
291	ICD-9-CM	Alcohol-induced mental disorders
291.0	ICD-9-CM	Alcohol withdrawal delirium

291.1	ICD-9-CM	Alcohol-induced persisting amnestic disorder
291.2	ICD-9-CM	Alcohol-induced persisting dementia
291.3	ICD-9-CM	Alcohol-induced psychotic disorder with hallucinations
291.4	ICD-9-CM	Idiosyncratic alcohol intoxication
291.5	ICD-9-CM	Alcohol-induced psychotic disorder with delusions
291.8	ICD-9-CM	Other specified alcohol-induced mental disorders
291.81	ICD-9-CM	Alcohol withdrawal
291.82	ICD-9-CM	Alcohol induced sleep disorders
291.89	ICD-9-CM	Other specified alcohol-induced mental disorders
291.9	ICD-9-CM	Unspecified alcohol-induced mental disorders
292	ICD-9-CM	Drug-induced mental disorders
292.0	ICD-9-CM	Drug withdrawal
292.1	ICD-9-CM	Drug-induced psychotic disorder
292.11	ICD-9-CM	Drug-induced psychotic disorder with delusions
292.12	ICD-9-CM	Drug-induced psychotic disorder with hallucinations
292.2	ICD-9-CM	Pathological drug intoxication
292.8	ICD-9-CM	Other specified drug-induced mental disorders
292.81	ICD-9-CM	Drug-induced delirium
292.82	ICD-9-CM	Drug-induced persisting dementia
292.83	ICD-9-CM	Drug-induced persisting amnestic disorder
292.84	ICD-9-CM	Drug-induced mood disorder
292.85	ICD-9-CM	Drug induced sleep disorders
292.89	ICD-9-CM	Other specified drug-induced mental disorder
292.9	ICD-9-CM	Unspecified drug-induced mental disorder
303	ICD-9-CM	Alcohol dependence syndrome
303.00	ICD-9-CM	Acute alcoholic intoxication, unspecified
303.0	ICD-9-CM	Acute alcoholic intoxication
303.01	ICD-9-CM	Acute alcoholic intoxication, continuous
303.02	ICD-9-CM	Acute alcoholic intoxication, episodic
303.03	ICD-9-CM	Acute alcoholic intoxication, in remission
303.9	ICD-9-CM	Other and unspecified alcohol dependence
303.90	ICD-9-CM	Other and unspecified alcohol dependence, unspecified
303.91	ICD-9-CM	Other and unspecified alcohol dependence, continuous
303.92	ICD-9-CM	Other and unspecified alcohol dependence, episodic

303.93	ICD-9-CM	Other and unspecified alcohol dependence, in remission
304.0	ICD-9-CM	Opioid type dependence
304	ICD-9-CM	Drug dependence
304.00	ICD-9-CM	Opioid type dependence, unspecified
304.01	ICD-9-CM	Opioid type dependence, continuous
304.02	ICD-9-CM	Opioid type dependence, episodic
304.03	ICD-9-CM	Opioid type dependence, in remission
304.1	ICD-9-CM	Sedative, hypnotic or anxiolytic dependence
304.10	ICD-9-CM	Sedative, hypnotic or anxiolytic dependence, unspecified
304.11	ICD-9-CM	Sedative, hypnotic or anxiolytic dependence, continuous
304.12	ICD-9-CM	Sedative, hypnotic or anxiolytic dependence, episodic
304.13	ICD-9-CM	Sedative, hypnotic or anxiolytic dependence, in remission
304.2	ICD-9-CM	Cocaine dependence
304.20	ICD-9-CM	Cocaine dependence, unspecified
304.21	ICD-9-CM	Cocaine dependence, continuous
304.22	ICD-9-CM	Cocaine dependence, episodic
304.23	ICD-9-CM	Cocaine dependence, in remission
304.30	ICD-9-CM	Cannabis dependence, unspecified
304.3	ICD-9-CM	Cannabis dependence
304.31	ICD-9-CM	Cannabis dependence, continuous
304.32	ICD-9-CM	Cannabis dependence, episodic
304.33	ICD-9-CM	Cannabis dependence, in remission
304.4	ICD-9-CM	Amphetamine and other psychostimulant dependence
304.40	ICD-9-CM	Amphetamine and other psychostimulant dependence, unspecified
304.41	ICD-9-CM	Amphetamine and other psychostimulant dependence, continuous
304.42	ICD-9-CM	Amphetamine and other psychostimulant dependence, episodic
304.43	ICD-9-CM	Amphetamine and other psychostimulant dependence, in remission
304.50	ICD-9-CM	Hallucinogen dependence, unspecified
304.5	ICD-9-CM	Hallucinogen dependence
304.51	ICD-9-CM	Hallucinogen dependence, continuous
304.52	ICD-9-CM	Hallucinogen dependence, episodic
304.53	ICD-9-CM	Hallucinogen dependence, in remission
304.60	ICD-9-CM	Other specified drug dependence, unspecified
304.6	ICD-9-CM	Other specified drug dependence

304.61	ICD-9-CM	Other specified drug dependence, continuous
304.62	ICD-9-CM	Other specified drug dependence, episodic
304.63	ICD-9-CM	Other specified drug dependence, in remission
304.7	ICD-9-CM	Combinations of opioid type drug with any other drug dependence
304.70	ICD-9-CM	Combinations of opioid type drug with any other drug dependence, unspecified
304.71	ICD-9-CM	Combinations of opioid type drug with any other drug dependence, continuous
304.72	ICD-9-CM	Combinations of opioid type drug with any other drug dependence, episodic
304.73	ICD-9-CM	Combinations of opioid type drug with any other drug dependence, in remission
304.80	ICD-9-CM	Combinations of drug dependence excluding opioid type drug, unspecified
304.8	ICD-9-CM	Combinations of drug dependence excluding opioid type drug
304.81	ICD-9-CM	Combinations of drug dependence excluding opioid type drug, continuous
304.82	ICD-9-CM	Combinations of drug dependence excluding opioid type drug, episodic
304.83	ICD-9-CM	Combinations of drug dependence excluding opioid type drug, in remission
304.90	ICD-9-CM	Unspecified drug dependence, unspecified
304.9	ICD-9-CM	Unspecified drug dependence
304.91	ICD-9-CM	Unspecified drug dependence, continuous
304.92	ICD-9-CM	Unspecified drug dependence, episodic
304.93	ICD-9-CM	Unspecified drug dependence, in remission
305.00	ICD-9-CM	Nondependent alcohol abuse, unspecified
305.0	ICD-9-CM	Nondependent alcohol abuse
305	ICD-9-CM	Nondependent abuse of drugs
305.01	ICD-9-CM	Nondependent alcohol abuse, continuous
305.02	ICD-9-CM	Nondependent alcohol abuse, episodic
305.03	ICD-9-CM	Nondependent alcohol abuse, in remission
305.2	ICD-9-CM	Nondependent cannabis abuse
305.20	ICD-9-CM	Nondependent cannabis abuse, unspecified
305.21	ICD-9-CM	Nondependent cannabis abuse, continuous
305.22	ICD-9-CM	Nondependent cannabis abuse, episodic
305.23	ICD-9-CM	Nondependent cannabis abuse, in remission
305.30	ICD-9-CM	Nondependent hallucinogen abuse, unspecified
305.3	ICD-9-CM	Nondependent hallucinogen abuse
305.31	ICD-9-CM	Nondependent hallucinogen abuse, continuous
305.32	ICD-9-CM	Nondependent hallucinogen abuse, episodic
305.33	ICD-9-CM	Nondependent hallucinogen abuse, in remission

305.4	ICD-9-CM	Nondependent sedative, hypnotic or anxiolytic abuse
305.40	ICD-9-CM	Nondependent sedative, hypnotic or anxiolytic abuse, unspecified
305.41	ICD-9-CM	Nondependent sedative hypnotic or anxiolytic abuse, continuous
305.42	ICD-9-CM	Nondependent sedative, hypnotic or anxiolytic abuse, episodic
305.43	ICD-9-CM	Nondependent sedative, hypnotic or anxiolytic abuse, in remission
305.5	ICD-9-CM	Nondependent opioid abuse
305.50	ICD-9-CM	Nondependent opioid abuse, unspecified
305.51	ICD-9-CM	Nondependent opioid abuse, continuous
305.52	ICD-9-CM	Nondependent opioid abuse, episodic
305.53	ICD-9-CM	Nondependent opioid abuse, in remission
305.6	ICD-9-CM	Nondependent cocaine abuse
305.60	ICD-9-CM	Nondependent cocaine abuse, unspecified
305.61	ICD-9-CM	Nondependent cocaine abuse, continuous
305.62	ICD-9-CM	Nondependent cocaine abuse, episodic
305.63	ICD-9-CM	Nondependent cocaine abuse, in remission
305.7	ICD-9-CM	Nondependent amphetamine or related acting sympathomimetic abuse
305.70	ICD-9-CM	Nondependent amphetamine or related acting sympathomimetic abuse, unspecified
305.71	ICD-9-CM	Nondependent amphetamine or related acting sympathomimetic abuse, continuous
305.72	ICD-9-CM	Nondependent amphetamine or related acting sympathomimetic abuse, episodic
305.73	ICD-9-CM	Nondependent amphetamine or related acting sympathomimetic abuse, in remission
305.80	ICD-9-CM	Nondependent antidepressant type abuse, unspecified
305.8	ICD-9-CM	Nondependent antidepressant type abuse
305.81	ICD-9-CM	Nondependent antidepressant type abuse, continuous
305.82	ICD-9-CM	Nondependent antidepressant type abuse, episodic
305.83	ICD-9-CM	Nondependent antidepressant type abuse, in remission
305.9	ICD-9-CM	Other, mixed, or unspecified nondependent drug abuse
305.90	ICD-9-CM	Other, mixed, or unspecified nondependent drug abuse, unspecified
305.91	ICD-9-CM	Other, mixed, or unspecified nondependent drug abuse, continuous
305.92	ICD-9-CM	Other, mixed, or unspecified nondependent drug abuse, episodic
305.93	ICD-9-CM	Other, mixed, or unspecified nondependent drug abuse, in remission
571.0	ICD-9-CM	Alcoholic fatty liver
571.1	ICD-9-CM	Acute alcoholic hepatitis
571.2	ICD-9-CM	Alcoholic cirrhosis of liver
571.3	ICD-9-CM	Unspecified alcoholic liver damage

648.3	ICD-9-CM	Maternal drug dependence complicating pregnancy, childbirth, or the puerperium
4320F	CPT Category II	Patient counseled regarding psychosocial and pharmacologic treatment options for alcohol dependence (SUD)
H0005	HCPCS	Alcohol and/or drug services; group counseling by a clinician
H0007	HCPCS	Alcohol and/or drug services; crisis intervention (outpatient)
H0008	HCPCS	Alcohol and/or drug services; subacute detoxification (hospital inpatient)
H0010	HCPCS	Alcohol and/or drug services; subacute detoxification (residential addiction program inpatient)
H0011	HCPCS	Alcohol and/or drug services; acute detoxification (residential addiction program inpatient)
H0012	HCPCS	Alcohol and/or drug services; subacute detoxification (residential addiction program outpatient)
H0013	HCPCS	Alcohol and/or drug services; acute detoxification (residential addiction program outpatient)
H0014	HCPCS	Alcohol and/or drug services; ambulatory detoxification
H0015	HCPCS	Alcohol and/or drug services; intensive outpatient (treatment program that operates at least 3 hours/day and at least 3 days/week and is based on an individualized treatment plan), including assessment, counseling; crisis intervention, and activity therapies or education
H0020	HCPCS	Alcohol and/or drug services; methadone administration and/or service (provision of the drug by a licensed program)
H0022	HCPCS	Alcohol and/or drug intervention service (planned facilitation)
H2035	HCPCS	Alcohol and/or other drug treatment program, per hour
H2036	HCPCS	Alcohol and/or other drug treatment program, per diem
T1006	HCPCS	Alcohol and/or substance abuse services, family/couple counseling
T1007	HCPCS	Alcohol and/or substance abuse services, treatment plan development and/or modification
T1008	HCPCS	Day treatment for individual alcohol and/or substance abuse services
T1010	HCPCS	Meals for individuals receiving alcohol and/or substance abuse services (when meals not included in the program)
T1012	HCPCS	Alcohol and/or substance abuse services, skills development
V65.42	ICD-9-CM	Counseling on substance use and abuse

Depression

296.2	ICD-9-CM	Major depressive disorder, single episode
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296.20	ICD-9-CM	Major depressive disorder, single episode, unspecified
296.21	ICD-9-CM	Major depressive disorder, single episode, mild
296.22	ICD-9-CM	Major depressive disorder, single episode, moderate
296.23	ICD-9-CM	Major depressive disorder, single episode, severe, without mention of psychotic behavior
296.24	ICD-9-CM	Major depressive disorder, single episode, severe, specified as with psychotic behavior
296.25	ICD-9-CM	Major depressive disorder, single episode, in partial or unspecified remission
296.26	ICD-9-CM	Major depressive disorder, single episode in full remission
296.3	ICD-9-CM	Major depressive disorder, recurrent episode
296.30	ICD-9-CM	Major depressive disorder, recurrent episode, unspecified
296.31	ICD-9-CM	Major depressive disorder, recurrent episode, mild
296.32	ICD-9-CM	Major depressive disorder, recurrent episode, moderate
296.33	ICD-9-CM	Major depressive disorder, recurrent episode, severe, without mention of psychotic behavior
296.34	ICD-9-CM	Major depressive disorder, recurrent episode, severe, specified as with psychotic behavior
296.35	ICD-9-CM	Major depressive disorder, recurrent episode, in partial or unspecified remission
296.36	ICD-9-CM	Major depressive disorder, recurrent episode, in full remission
300.4	ICD-9-CM	Dysthymic disorder
309.1	ICD-9-CM	Prolonged depressive reaction as adjustment reaction
311	ICD-9-CM	Depressive disorder, not elsewhere classified
PTSD		
309.81	ICD-9-CM	Posttraumatic stress disorder
Anticoagulant (oral)		
964.2	ICD-9-CM	Poisoning by anticoagulants
E934.2	ICD-9-CM	Anticoagulants causing adverse effect in therapeutic use
V58.61	ICD-9-CM	Long-term (current) use of anticoagulants
99363	CPT-4	Anticoagulant management for an outpatient taking warfarin, physician review and interpretation of International Normalized Ratio (INR) testing, patient instructions, dosage adjustment (as needed), and ordering of additional tests; initial 90 days of therapy (must include a minimum of 8 INR measurements)

99364	CPT-4	Anticoagulant management for an outpatient taking warfarin, physician review and interpretation of International Normalized Ratio (INR) testing, patient instructions, dosage adjustment (as needed), and ordering of additional tests; each subsequent 90 days of therapy (must include a minimum of 3 INR measurements)
4075F	CPT Category II	Anticoagulant therapy prescribed at discharge (STR)
G8225	HCPCS	Patient documented to have been prescribed an anticoagulant at discharge
G8967	HCPCS	Warfarin or another oral anticoagulant that is FDA approved prescribed

Anticoagulant (non-oral)

289.84	ICD-9-CM	Heparin-induced thrombocytopenia [HIT]
99.19	ICD-9-CM	Injection of anticoagulant
85525	CPT-4	Heparin neutralization
99557	CPT-4	Home infusion of continuous anticoagulant therapy (eg, heparin), per visit
85520	HCPCS	Heparin assay
J1644	HCPCS	Injection, Heparin sodium, per 1000 units
S9336	HCPCS	Home infusion therapy, continuous anticoagulant infusion therapy (e.g., Heparin), administrative services, professional pharmacy services, care coordination and all necessary supplies and equipment (drugs and nursing visits coded separately), per diem
S9372	HCPCS	Home therapy; intermittent anticoagulant injection therapy (e.g., Heparin); administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment (drugs and nursing visits coded separately), per diem (do not use this code for flushing of infusion devices with Heparin to maintain patency)

Appendix C: List of Generic and Brand Names used to Define Covariates in this Request

Exposure	Generic Name	Brand Name
ACE-Inhibitors	BENAZEPRIL HCL	Lotensin
ACE-Inhibitors	CAPTOPRIL	captopril
ACE-Inhibitors	ENALAPRIL MALEATE	Vasotec
ACE-Inhibitors	LISINOPRIL	Zestril
ACE-Inhibitors	LISINOPRIL/HYDROCHLOROTHIAZIDE	Prinzide
ACE-Inhibitors	LISINOPRIL/HYDROCHLOROTHIAZIDE	Zestoretic
ACE-Inhibitors	QUINAPRIL HCL	Accupril
ACE-Inhibitors	FOSINOPRIL SODIUM	Monopril
ACE-Inhibitors	RAMIPRIL	Altace
ACE-Inhibitors	ENALAPRIL MALEATE	enalapril maleate
ACE-Inhibitors	ENALAPRIL MALEATE/FELODIPINE	Lexxel
ACE-Inhibitors	CAPTOPRIL	Capoten
ACE-Inhibitors	LISINOPRIL	lisinopril
ACE-Inhibitors	LISINOPRIL	Prinivil
ACE-Inhibitors	CAPTOPRIL/HYDROCHLOROTHIAZIDE	captopril-hydrochlorothiazide
ACE-Inhibitors	TRANDOLAPRIL/VERAPAMIL HCL	Tarka
ACE-Inhibitors	TRANDOLAPRIL	Mavik
ACE-Inhibitors	ENALAPRIL MALEATE/HYDROCHLOROTHIAZIDE	Vaseretic
ACE-Inhibitors	QUINAPRIL HCL/HYDROCHLOROTHIAZIDE	Accuretic
ACE-Inhibitors	AMLODIPINE BESYLATE/BENAZEPRIL HCL	Lotrel
ACE-Inhibitors	BENAZEPRIL HCL/HYDROCHLOROTHIAZIDE	Lotensin HCT
ACE-Inhibitors	MOEXIPRIL HCL	Univasc
ACE-Inhibitors	LISINOPRIL/HYDROCHLOROTHIAZIDE	lisinopril-hydrochlorothiazide
ACE-Inhibitors	ENALAPRIL MALEATE/HYDROCHLOROTHIAZIDE	enalapril-hydrochlorothiazide
ACE-Inhibitors	CAPTOPRIL/HYDROCHLOROTHIAZIDE	Capozide
ACE-Inhibitors	MOEXIPRIL HCL	moexipril
ACE-Inhibitors	QUINAPRIL HCL	quinapril
ACE-Inhibitors	BENAZEPRIL HCL	benazepril
ACE-Inhibitors	FOSINOPRIL SODIUM	fosinopril
ACE-Inhibitors	BENAZEPRIL HCL/HYDROCHLOROTHIAZIDE	benazepril-hydrochlorothiazide
ACE-Inhibitors	FOSINOPRIL SODIUM/HYDROCHLOROTHIAZIDE	Monopril HCT
ACE-Inhibitors	RAMIPRIL	ramipril

ACE-Inhibitors	MOEXIPRIL HCL/HYDROCHLOROTHIAZIDE	moexipril-hydrochlorothiazide
ACE-Inhibitors	QUINAPRIL HCL/HYDROCHLOROTHIAZIDE	Quinaretic
ACE-Inhibitors	TRANDOLAPRIL	trandolapril
ACE-Inhibitors	FOSINOPRIL SODIUM/HYDROCHLOROTHIAZIDE	fosinopril-hydrochlorothiazide
ACE-Inhibitors	AMLODIPINE BESYLATE/BENAZEPRIL HCL	amlodipine-benazepril
ACE-Inhibitors	PERINDOPRIL ERBUMINE	perindopril erbumine
ACE-Inhibitors	MOEXIPRIL HCL/HYDROCHLOROTHIAZIDE	Uniretic
ACE-Inhibitors	PERINDOPRIL ERBUMINE	Aceon
ACE-Inhibitors	LISINOPRIL/DIETARY SUPPLEMENT,COMB.10	Lytensopril
ACE-Inhibitors	LISINOPRIL/DIETARY SUPPLEMENT,COMB.10	Lytensopril-90
ACE-Inhibitors	TRANDOLAPRIL/VERAPAMIL HCL	trandolapril-verapamil
ACE-Inhibitors	QUINAPRIL HCL/HYDROCHLOROTHIAZIDE	quinapril-hydrochlorothiazide
ACE-Inhibitors	LISINOPRIL	Qbrelis
ACE-Inhibitors	PERINDOPRIL ARGININE/AMLODIPINE BESYLATE	Prestalia
ACE-Inhibitors	ENALAPRIL MALEATE	Epaned
Antiarrhythmics	QUINIDINE GLUCONATE	quinidine gluconate
Antiarrhythmics	VERAPAMIL HCL	verapamil
Antiarrhythmics	PROCAINAMIDE HCL	procainamide
Antiarrhythmics	QUINIDINE SULFATE	Quinidex Extentabs
Antiarrhythmics	MEXILETINE HCL	mexiletine
Antiarrhythmics	AMIODARONE HCL	amiodarone
Antiarrhythmics	QUINIDINE SULFATE	quinidine sulfate
Antiarrhythmics	PROCAINAMIDE HCL	Procanbid
Antiarrhythmics	DISOPYRAMIDE PHOSPHATE	disopyramide phosphate
Antiarrhythmics	MEXILETINE HCL	Mexitil
Antiarrhythmics	TOCAINIDE HCL	Tonocard
Antiarrhythmics	PROCAINAMIDE HCL	Pronestyl
Antiarrhythmics	AMIODARONE HCL	Pacerone
Antiarrhythmics	PROPAFENONE HCL	propafenone
Antiarrhythmics	QUINIDINE GLUCONATE	Quinaglute Dura-Tab
Antiarrhythmics	SOTALOL HCL	sotalol
Antiarrhythmics	PROPAFENONE HCL	Rythmol
Antiarrhythmics	MORICIZINE HCL	Ethmazine
Antiarrhythmics	FLECAINIDE ACETATE	flecainide

Antiarrhythmics	DISOPYRAMIDE PHOSPHATE	Norpace
Antiarrhythmics	AMIODARONE HCL	Cordarone
Antiarrhythmics	VERAPAMIL HCL	Calan
Antiarrhythmics	PROPAFENONE HCL	Rythmol SR
Antiarrhythmics	DISOPYRAMIDE PHOSPHATE	Norpace CR
Antiarrhythmics	PROCAINAMIDE HCL	Pronestyl-SR
Antiarrhythmics	SOTALOL HCL	Betapace AF
Antiarrhythmics	SOTALOL HCL	Betapace
Antiarrhythmics	SOTALOL HCL	Sotalol AF
Antiarrhythmics	FLECAINIDE ACETATE	Tambocor
Antiarrhythmics	SOTALOL HCL	Sorine
Antiarrhythmics	DRONEDARONE HCL	Multaq
Antiarrhythmics	SOTALOL HCL	Sotylize
Antiarrhythmics	DOFETILIDE	dofetilide
Antiarrhythmics	DOFETILIDE	Tikosyn
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE/DEXTROSE 5 % IN WATER	heparin (porcine) in 5 % dex
Anticoagulant (non-oral)	ARDEPARIN SODIUM,PORCINE	Normiflo
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE IN 0.9 % SODIUM CHLORIDE	Heparin Combination
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE	heparin (porcine)
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE	Vasceze
Anticoagulant (non-oral)	HEPARIN SODIUM,BEEF	heparin (bovine)
Anticoagulant (non-oral)	FONDAPARINUX SODIUM	Arixtra
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE IN 0.9 % SODIUM CHLORIDE	Hep-Pak
Anticoagulant (non-oral)	LEPIRUDIN,RECOMBINANT	Refludan
Anticoagulant (non-oral)	TINZAPARIN SODIUM,PORCINE	Innohep
Anticoagulant (non-oral)	DANAPAROID SODIUM,PORCINE	Orgaran
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE/PF	heparin, porcine (PF)
Anticoagulant (non-oral)	ENOXAPARIN SODIUM	Lovenox
Anticoagulant (non-oral)	ARGATROBAN	argatroban
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE IN 0.9 % SODIUM CHLORIDE	heparin (porcine) in 0.9% NaCl
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE IN 0.9 % SODIUM CHLORIDE/PF	heparin (porcine) in NaCl (PF)
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE IN 0.45 % SODIUM CHLORIDE	heparin(porcine) in 0.45% NaCl
Anticoagulant (non-oral)	DALTEPARIN SODIUM,PORCINE	Fragmin
Anticoagulant (non-oral)	DESIRUDIN	Iprivask

Anticoagulant (non-oral)	ENOXAPARIN SODIUM	enoxaparin
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE/DEXTROSE 5 % IN WATER/PF	heparin (porcine) in D5W (PF)
Anticoagulant (non-oral)	BIVALIRUDIN	Angiomax
Anticoagulant (non-oral)	WARFARIN SODIUM	Coumadin
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE/PF	Monoject Prefill Advanced (PF)
Anticoagulant (non-oral)	FONDAPARINUX SODIUM	fondaparinux
Anticoagulant (non-oral)	ARGATROBAN IN SODIUM CHLORIDE, ISO-OSMOTIC	argatroban in NaCL (iso-os)
Anticoagulant (non-oral)	HEPARIN SODIUM,PORCINE/PF	Monoject Prefill (PF)
Anticoagulant (non-oral)	BIVALIRUDIN	bivalirudin
Anticoagulant (non-oral)	ARGATROBAN IN 0.9 % SODIUM CHLORIDE	argatroban in 0.9 % sod chlor
Anticoagulant (oral)	WARFARIN SODIUM	warfarin
Anticoagulant (oral)	ANISINDIONE	Miradon
Anticoagulant (oral)	WARFARIN SODIUM	Jantoven
Anticoagulant (oral)	DABIGATRAN ETEXILATE MESYLATE	Pradaxa
Anticoagulant (oral)	RIVAROXABAN	Xarelto
Anticoagulant (oral)	EDOXABAN TOSYLATE	Savaysa
Anticoagulant (oral)	APIXABAN	Eliquis
Beta Blockers	ATENOLOL	atenolol
Beta Blockers	ATENOLOL	Tenormin
Beta Blockers	METOPROLOL TARTRATE	Lopressor
Beta Blockers	NADOLOL	Corgard
Beta Blockers	PROPRANOLOL HCL	Inderal
Beta Blockers	PROPRANOLOL HCL	propranolol
Beta Blockers	PROPRANOLOL HCL/HYDROCHLOROTHIAZIDE	Inderide
Beta Blockers	TIMOLOL MALEATE	timolol maleate
Beta Blockers	NADOLOL	nadolol
Beta Blockers	PROPRANOLOL HCL	Inderal LA
Beta Blockers	METOPROLOL TARTRATE	metoprolol tartrate
Beta Blockers	ATENOLOL/CHLORTHALIDONE	atenolol-chlorthalidone
Beta Blockers	PINDOLOL	pindolol
Beta Blockers	ACEBUTOLOL HCL	Sectral
Beta Blockers	ACEBUTOLOL HCL	acebutolol
Beta Blockers	PROPRANOLOL HCL/HYDROCHLOROTHIAZIDE	propranolol-hydrochlorothiazid
Beta Blockers	BISOPROLOL FUMARATE/HYDROCHLOROTHIAZIDE	bisoprolol-hydrochlorothiazide

Beta Blockers	PROPRANOLOL HCL/HYDROCHLOROTHIAZIDE	Inderide LA
Beta Blockers	PINDOLOL	Visken
Beta Blockers	NADOLOL/BENDROFLUMETHIAZIDE	Corzide
Beta Blockers	ATENOLOL	Senormin
Beta Blockers	BISOPROLOL FUMARATE	bisoprolol fumarate
Beta Blockers	ATENOLOL/CHLORTHALIDONE	Tenoretic 50
Beta Blockers	BISOPROLOL FUMARATE/HYDROCHLOROTHIAZIDE	Ziac
Beta Blockers	METOPROLOL SUCCINATE	Toprol XL
Beta Blockers	BETAXOLOL HCL	Kerlone
Beta Blockers	BISOPROLOL FUMARATE	Zebeta
Beta Blockers	TIMOLOL MALEATE	Blocadren
Beta Blockers	TIMOLOL MALEATE/HYDROCHLOROTHIAZIDE	Timolide
Beta Blockers	CARTEOLOL HCL	Cartrol
Beta Blockers	METOPROLOL TARTRATE/HYDROCHLOROTHIAZIDE	Lopressor HCT
Beta Blockers	PROPRANOLOL HCL	InnoPran XL
Beta Blockers	METOPROLOL SUCCINATE	metoprolol succinate
Beta Blockers	BETAXOLOL HCL	betaxolol
Beta Blockers	NADOLOL/BENDROFLUMETHIAZIDE	nadolol-bendroflumethiazide
Beta Blockers	METOPROLOL TARTRATE/DIETARY SUPPLEMENT,COMB.10	Hypertensolol
Beta Blockers	PENBUTOLOL SULFATE	Levatol
Beta Blockers	METOPROLOL TARTRATE/HYDROCHLOROTHIAZIDE	metoprolol ta-hydrochlorothiaz
Beta Blockers	NEBIVOLOL HCL	Bystolic
Beta Blockers	METOPROLOL SUCCINATE/HYDROCHLOROTHIAZIDE	Dutoprol
Beta Blockers	ATENOLOL/CHLORTHALIDONE	Tenoretic 100
Beta Blockers	METOPROLOL SUCCINATE/HYDROCHLOROTHIAZIDE	metoprolol su-hydrochlorothiaz
Beta Blockers	PROPRANOLOL HCL	Hemangeol
Beta Blockers	PROPRANOLOL HCL	Inderal XL
SSRI	FLUOXETINE HCL	Prozac
SSRI	PAROXETINE HCL	Paxil
SSRI	SERTRALINE HCL	Zoloft
SSRI	FLUVOXAMINE MALEATE	fluvoxamine
SSRI	CITALOPRAM HYDROBROMIDE	Celexa
SSRI	FLUOXETINE HCL	fluoxetine
SSRI	FLUVOXAMINE MALEATE	Luvox

SSRI	FLUOXETINE HCL	Sarafem
SSRI	CITALOPRAM HYDROBROMIDE	citalopram
SSRI	PAROXETINE HCL	Paxil CR
SSRI	PAROXETINE HCL	paroxetine HCl
SSRI	FLUOXETINE HCL	Rapiflux
SSRI	PAROXETINE MESYLATE	Pexeva
SSRI	ESCITALOPRAM OXALATE	Lexapro
SSRI	SERTRALINE HCL	sertraline
SSRI	FLUOXETINE HCL	Prozac Weekly
SSRI	FLUOXETINE HCL	Selfemra
SSRI	FLUOXETINE HCL/DIETARY SUPPLEMENT,MISC COMB17	Gaboxetine
SSRI	FLUOXETINE HCL/DIETARY SUPPLEMENT,MISC.COMBO8	Sentroxatine
SSRI	OLANZAPINE/FLUOXETINE HCL	Symbyax
SSRI	ESCITALOPRAM OXALATE	escitalopram oxalate
SSRI	FLUVOXAMINE MALEATE	Luvox CR
SSRI	VILAZODONE HCL	Viibryd
SSRI	VORTIOXETINE HYDROBROMIDE	Brintellix
SSRI	OLANZAPINE/FLUOXETINE HCL	olanzapine-fluoxetine
SSRI	VORTIOXETINE HYDROBROMIDE	Trintellix
Statins	ATORVASTATIN CALCIUM	Lipitor
Statins	FLUVASTATIN SODIUM	Lescol
Statins	LOVASTATIN	Mevacor
Statins	PRAVASTATIN SODIUM	Pravachol
Statins	CERIVASTATIN SODIUM	Baycol
Statins	SIMVASTATIN	Zocor
Statins	ASPIRIN (CALCIUM CARB & MAGNESIUM BUFFERS)/PRAVASTATIN	PRAVIGARD PAC
Statins	LOVASTATIN	Altacor
Statins	LOVASTATIN	Altoprev
Statins	LOVASTATIN	lovastatin
Statins	SIMVASTATIN	simvastatin
Statins	PRAVASTATIN SODIUM	pravastatin
Statins	NIACIN/LOVASTATIN	Advicor
Statins	FLUVASTATIN SODIUM	Lescol XL
Statins	AMLODIPINE BESYLATE/ATORVASTATIN CALCIUM	Caduet

Statins	EZETIMIBE/SIMVASTATIN	Vytorin 10-10
Statins	EZETIMIBE/SIMVASTATIN	Vytorin 10-20
Statins	EZETIMIBE/SIMVASTATIN	Vytorin 10-40
Statins	ROSUVASTATIN CALCIUM	Crestor
Statins	NIACIN/SIMVASTATIN	Simcor
Statins	EZETIMIBE/SIMVASTATIN	Vytorin 10-80
Statins	AMLODIPINE BESYLATE/ATORVASTATIN CALCIUM	amlodipine-atorvastatin
Statins	ATORVASTATIN CALCIUM	atorvastatin
Statins	PITAVASTATIN CALCIUM	Livalo
Statins	SITAGLIPTIN PHOSPHATE/SIMVASTATIN	Juvisync
Statins	EZETIMIBE/ATORVASTATIN CALCIUM	Liptruzet
Statins	ROSUVASTATIN CALCIUM	rosuvastatin
Statins	FLUVASTATIN SODIUM	fluvastatin

Appendix D: List of Generic and Brand Names used to Define Atypical or Typical Antipsychotic with or without SSRI Exposures in this Request

Exposure	Generic Name	Brand Name
Atypical Antipsychotic	ARIPIRAZOLE	Abilify
Atypical Antipsychotic	ARIPIRAZOLE	Abilify Discmelt
Atypical Antipsychotic	ARIPIRAZOLE	aripiprazole
Atypical Antipsychotic	ASENAPINE MALEATE	Saphris
Atypical Antipsychotic	ASENAPINE MALEATE	Saphris (black cherry)
Atypical Antipsychotic	BREXPIRAZOLE	Rexulti
Atypical Antipsychotic	CARIPRAZINE HCL	Vraylar
Atypical Antipsychotic	CLOZAPINE	clozapine
Atypical Antipsychotic	CLOZAPINE	Clozaril
Atypical Antipsychotic	CLOZAPINE	FazaClo
Atypical Antipsychotic	CLOZAPINE	Versacloz
Atypical Antipsychotic	ILOPERIDONE	Fanapt
Atypical Antipsychotic	LURASIDONE HCL	Latuda
Atypical Antipsychotic	OLANZAPINE	olanzapine
Atypical Antipsychotic	OLANZAPINE	Zyprexa
Atypical Antipsychotic	OLANZAPINE	Zyprexa Zydis
Atypical Antipsychotic	OLANZAPINE/FLUOXETINE HCL	olanzapine-fluoxetine
Atypical Antipsychotic	OLANZAPINE/FLUOXETINE HCL	Symbyax
Atypical Antipsychotic	PALIPERIDONE	Invega
Atypical Antipsychotic	PALIPERIDONE	paliperidone
Atypical Antipsychotic	PIMAVANSERIN TARTRATE	Nuplazid
Atypical Antipsychotic	QUETIAPINE FUMARATE	quetiapine
Atypical Antipsychotic	QUETIAPINE FUMARATE	Seroquel
Atypical Antipsychotic	QUETIAPINE FUMARATE	Seroquel XR
Atypical Antipsychotic	RISPERIDONE	Risperdal
Atypical Antipsychotic	RISPERIDONE	Risperdal M-TAB
Atypical Antipsychotic	RISPERIDONE	risperidone
Atypical Antipsychotic	ZIPRASIDONE HCL	Geodon
Atypical Antipsychotic	ZIPRASIDONE HCL	ziprasidone HCl
Haloperidol	HALOPERIDOL	haloperidol
Haloperidol	HALOPERIDOL LACTATE	Haldol
Haloperidol	HALOPERIDOL LACTATE	haloperidol lactate

Typical Antipsychotic	CHLORPROMAZINE HCL	chlorpromazine
Typical Antipsychotic	CHLORPROMAZINE HCL	Thorazine
Typical Antipsychotic	FLUPHENAZINE HCL	fluphenazine HCl
Typical Antipsychotic	FLUPHENAZINE HCL	Permitil
Typical Antipsychotic	FLUPHENAZINE HCL	Prolixin
Typical Antipsychotic	HALOPERIDOL	haloperidol
Typical Antipsychotic	HALOPERIDOL LACTATE	Haldol
Typical Antipsychotic	HALOPERIDOL LACTATE	haloperidol lactate
Typical Antipsychotic	LOXAPINE HCL	Loxitane-C
Typical Antipsychotic	LOXAPINE SUCCINATE	loxapine succinate
Typical Antipsychotic	LOXAPINE SUCCINATE	Loxitane
Typical Antipsychotic	MOLINDONE HCL	Moban
Typical Antipsychotic	MOLINDONE HCL	molindone
Typical Antipsychotic	PERPHENAZINE	perphenazine
Typical Antipsychotic	PERPHENAZINE	Trilafon
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Duo-Vil 2-10
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Duo-Vil 2-25
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Etrafon 2-10
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Etrafon 2-25
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Etrafon Forte 4-25
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	perphenazine-amitriptyline
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Triavil 2-10
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Triavil 2-25
Typical Antipsychotic	PERPHENAZINE/AMITRIPTYLINE HCL	Triavil 4-25
Typical Antipsychotic	PIMOZIDE	Orap
Typical Antipsychotic	PIMOZIDE	pimozide
Typical Antipsychotic	THIORIDAZINE HCL	Mellaril
Typical Antipsychotic	THIORIDAZINE HCL	Mellaril-S
Typical Antipsychotic	THIORIDAZINE HCL	thioridazine
Typical Antipsychotic	THIOTHIXENE	Navane
Typical Antipsychotic	THIOTHIXENE	thiothixene
Typical Antipsychotic	THIOTHIXENE HCL	thiothixene HCl
Typical Antipsychotic	TRIFLUOPERAZINE HCL	Stelazine
Typical Antipsychotic	TRIFLUOPERAZINE HCL	trifluoperazine

SSRI only	CITALOPRAM HYDROBROMIDE	Celexa
SSRI only	CITALOPRAM HYDROBROMIDE	citalopram
SSRI only	ESCITALOPRAM OXALATE	escitalopram oxalate
SSRI only	ESCITALOPRAM OXALATE	Lexapro
SSRI only	FLUOXETINE HCL	fluoxetine
SSRI only	FLUOXETINE HCL	Prozac
SSRI only	FLUOXETINE HCL	Prozac Weekly
SSRI only	FLUOXETINE HCL	Rapiflux
SSRI only	FLUOXETINE HCL	Sarafem
SSRI only	FLUOXETINE HCL	Selfemra
SSRI only	FLUOXETINE HCL/DIETARY SUPPLEMENT,MISC COMB17	Gaboxetine
SSRI only	FLUOXETINE HCL/DIETARY SUPPLEMENT,MISC.COMBO8	Sentroxatine
SSRI only	FLUVOXAMINE MALEATE	fluvoxamine
SSRI only	FLUVOXAMINE MALEATE	Luvox
SSRI only	FLUVOXAMINE MALEATE	Luvox CR
SSRI only	PAROXETINE HCL	paroxetine HCl
SSRI only	PAROXETINE HCL	Paxil
SSRI only	PAROXETINE HCL	Paxil CR
SSRI only	PAROXETINE MESYLATE	Pexeva
SSRI only	SERTRALINE HCL	sertraline
SSRI only	SERTRALINE HCL	Zoloft
SSRI only	VILAZODONE HCL	Viibryd
SSRI only	VORTIOXETINE HYDROBROMIDE	Brintellix
SSRI only	VORTIOXETINE HYDROBROMIDE	Trintellix
SSRI + Atypical Antipsychotic	OLANZAPINE/FLUOXETINE HCL	olanzapine-fluoxetine
SSRI + Atypical Antipsychotic	OLANZAPINE/FLUOXETINE HCL	Symbyax
Olanzapine	OLANZAPINE	olanzapine
Olanzapine	OLANZAPINE	Zyprexa
Olanzapine	OLANZAPINE	Zyprexa Zydis
Olanzapine	OLANZAPINE/FLUOXETINE HCL	olanzapine-fluoxetine
Olanzapine	OLANZAPINE/FLUOXETINE HCL	Symbyax
Quetiapine	QUETIAPINE FUMARATE	quetiapine
Quetiapine	QUETIAPINE FUMARATE	Seroquel
Quetiapine	QUETIAPINE FUMARATE	Seroquel XR

Risperidone	RISPERIDONE	Risperdal
Risperidone	RISPERIDONE	Risperdal M-TAB
Risperidone	RISPERIDONE	risperidone
Aripiprazole	ARIPIPAZOLE	Abilify
Aripiprazole	ARIPIPAZOLE	Abilify Discmelt
Aripiprazole	ARIPIPAZOLE	aripiprazole
Fluoxetine	FLUOXETINE HCL	fluoxetine
Fluoxetine	FLUOXETINE HCL	Prozac
Fluoxetine	FLUOXETINE HCL	Prozac Weekly
Fluoxetine	FLUOXETINE HCL	Rapiflux
Fluoxetine	FLUOXETINE HCL	Sarafem
Fluoxetine	FLUOXETINE HCL	Selfemra
Fluoxetine	FLUOXETINE HCL/DIETARY SUPPLEMENT,MISC COMB17	Gaboxetine
Fluoxetine	FLUOXETINE HCL/DIETARY SUPPLEMENT,MISC.COMBO8	Sentroxatine

Appendix E: List of Diagnosis Codes Used to Define Outcomes in this Request

Code	Code Category	Code Type	Description
Ischemic Stroke			
433.01	Diagnosis	ICD-9-CM	Occlusion and stenosis of basilar artery with cerebral infarction
433.11	Diagnosis	ICD-9-CM	Occlusion and stenosis of carotid artery with cerebral infarction
433.21	Diagnosis	ICD-9-CM	Occlusion and stenosis of vertebral artery with cerebral infarction
433.31	Diagnosis	ICD-9-CM	Occlusion and stenosis of multiple and bilateral precerebral arteries with cerebral infarction
433.81	Diagnosis	ICD-9-CM	Occlusion and stenosis of other specified precerebral artery with cerebral infarction
433.91	Diagnosis	ICD-9-CM	Occlusion and stenosis of unspecified precerebral artery with cerebral infarction
434.01	Diagnosis	ICD-9-CM	Cerebral thrombosis with cerebral infarction
434.11	Diagnosis	ICD-9-CM	Cerebral embolism with cerebral infarction
434.91	Diagnosis	ICD-9-CM	Cerebral artery occlusion, unspecified, with cerebral infarction
436	Diagnosis	ICD-9-CM	Acute, but ill-defined, cerebrovascular disease
Intracranial Hemorrhage			
430	Diagnosis	ICD-9-CM	Subarachnoid hemorrhage
431	Diagnosis	ICD-9-CM	Intracerebral hemorrhage

Appendix F: Modular Program Specifications for cder_mpl1r_wp045_nsdp_v01

CIDA Specifications for Antipsychotics and Risk of Stroke																							
Sentinel's Cohort Identification and Descriptive Analysis (CIDA) tool, version 3.3.2 was used to investigate the characteristics of users of atypical and typical antipsychotics, as well as SSRI only users and SSRI + specific atypical antipsychotics users. There are a total of 18 scenarios in this request.																							
Query Period: January 1, 2004 - September 30, 2015 Coverage Requirement: Medical and Drug Enrollment Requirement: 183 Days Enrollment Gap: 45 Days Age Groups: 18-35, 40-54, 55+ Covariate Evaluation Window: 183 Days																							
Scenario	Exposure										Pre-existing Condition					Covariates			Event/Outcome				
	Incident exposure	Incident w/ respect to	Washout (days)	Cohort Definition	Episode Gap	Exposure Extension Period	Min Episode Duration	Min Days Supplied	Truncation at Death	Additional Censoring Criteria	Pre-existing Condition 1	Care Setting/PDX	Include or Exclude	Lookback Period	Pre-existing Condition 2	Include or Exclude	Lookback Period	Covariate	Covariate Evaluation Window	Event/ Outcome	Care Setting/PDX	Washout (days)	Blackout period (days)
1	Typical antipsychotics	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Atypical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
2	Haloperidol	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical and atypical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index for all covariates except haloperidol (0 days before, 0 days after)	Stroke (ischemic stroke)	IPP	0	1
3	Atypical antipsychotics	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
4	SSRI_ex (SSRI excluding antipsychotic-SSRI combo)	SSRI, typical and atypical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical and atypical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
5	Olanzapine	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
6	Quetiapine	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
7	Risperidone	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
8	Aripiprazole	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
9	Olanzapine	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	Fluoxetine	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (ischemic stroke)	IPP	0	1
10	Typical antipsychotics	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Atypical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
11	Haloperidol	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical and atypical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index for all covariates except haloperidol (0 days before, 0 days after)	Stroke (intracranial hemorrhage)	IPP	0	1
12	Atypical antipsychotics	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
13	SSRI_ex (SSRI excluding antipsychotic-SSRI combo)	SSRI, typical and atypical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical and atypical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	-	-	-	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
14	Olanzapine	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
15	Quetiapine	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
16	Risperidone	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
17	Aripiprazole	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	SSRI	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1
18	Olanzapine	Atypical and typical antipsychotics	183	Cohort includes only the first valid treatment episode during the query period	30	30	1	1	Yes	Typical antipsychotics	Stroke (covariate definition)	Any	Exclude	60 days before to 1 day before index	Fluoxetine	Include	60 days before index to index	See Covariate tab.	183 days before to 1 day before index	Stroke (intracranial hemorrhage)	IPP	0	1

ICD-9-CM, HCPCS, and CPT codes are provided by Optum360. NDC codes are checked against First Data Bank's "National Drug Data File (NDDF) Plus."