

## Disclaimer

The following report(s) provides findings from an FDA-initiated query using Sentinel. While Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Sentinel, and seeking to better understand Sentinel capabilities.

Data obtained through Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

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

If you are using a web page screen reader and are unable to access this document, please contact the Sentinel Operations Center for assistance at [info@sentinelssystem.org](mailto:info@sentinelssystem.org).



### Overview for Request: cder\_mpl1p\_wp085 (Report 3 of 4)

**Health Characteristics:** We assessed the following characteristics on index date: age, sex, race, Hispanic origin, geography by Census Bureau (CB) region, and year. We assessed the following characteristics in the 365 days prior to and including the index date: ADHD; neurological and behavioral disorders associated with ADHD (narcolepsy, binge-eating disorder, conduct/adjustment, or related disorders); substance-related disorders and poisoning; use of other medications, including anxiolytics, antidepressants, and antipsychotics; and healthcare utilization. In addition, ADHD and neurological and behavioral disorders associated with ADHD were also assessed in the 30 days prior to and including the index date.

Active pharmacological ingredients of ADHD stimulant medications, ADHD non-stimulant medications, and schedule II (C-II) opioid analgesics dispensed during treatment episodes of exposure of interest were assessed in all available data following the index date. We also reported concomitant use of antidepressants, benzodiazepines, antipsychotics, and non-benzodiazepine anxiolytics, defined as a minimum of seven consecutive days of overlap between the days' supply of any of those drugs during any exposure episode. Also, for the exposures of interest, the analyses characterized dispensing patterns by examining cumulative exposure episode durations, first exposure episode durations, all exposure episode durations, and lengths of gaps between episodes.

National Drug Codes (NDC), Current Procedural Terminology, Fourth Edition (CPT-4), Current Procedural Terminology, Second Edition (CPT-2), Healthcare Common Procedure Coding System, Level II (HCPCS), International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), and International Classification of Diseases, Tenth Revision, Procedural Coding System (ICD-10-PCS) Codes were used to define the clinical characteristics and treatments. Please see Appendix B for a list of States and U.S. Territories per CB Region. Please see Appendix D for a list of non-proprietary and proprietary names of medical products used to define baseline characteristics in this request. Please see Appendix E for a list of diagnosis and procedure codes used to define baseline characteristics in this request.

**Please refer to Appendices F through K for the specifications of parameters used in this request, baseline characteristics used in this request, and a design diagram.**

**Disclaimer:** Due to the large number of analyses, and to improve efficiency and reduce runtime at the data partners, we first created a frozen dataset. The frozen data included the complete claims history of individuals who had a qualifying dispensing of any stimulant, non-stimulant, or C-II opioid drug classes during the study period. As a result, the total counts in the frozen dataset represent only individuals with a qualifying dispensing of drugs of interest and do not reflect the entire population of individuals enrolled in the datasets. Because the attrition tables would not accurately represent the full volume of enrollees in the datasets, we did not include attrition tables in this report.

**Limitations:** Algorithms used to define exposures and inclusion criteria are imperfect; thus, misclassification is possible. Data should be interpreted with this limitation in mind.

**Notes:** Please contact the Sentinel Operations Center ([info@sentinelssystem.org](mailto:info@sentinelssystem.org)) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (<https://dev.sentinelssystem.org/projects/SETINEL/repos/sentinel-routine-querying-tool-documentation/browse>).





































































































































**Table 1m. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 45-64 Years		
Health Characteristics	Number	Percent
Autistic Disorder on index date or year prior	238	0.3%
Any Substance-Related Disorders on index date or year prior	18,749	25.1%
Opioid-Related Disorders on index date or year prior	4,255	5.7%
Stimulant-Related Disorders on index date or year prior	1,171	1.6%
Cocaine-Related Disorders on index date or year prior	508	0.7%
Other Stimulant-Related Disorders on index date or year prior	774	1.0%
Alcohol-Related Disorders on index date or year prior	3,442	4.6%
Cannabis-Related Disorders on index date or year prior	1,373	1.8%
Tobacco-Related Disorders on index date or year prior	14,189	19.0%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	3,388	4.5%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	217	0.3%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	135	0.2%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	40	0.1%
Intentional Poisoning by Broad Category on index date or year prior	510	0.7%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	38,237	51.2%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	43,995	58.9%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	310	0.4%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	134	0.2%
At least One Encounter in the Emergency Department in Year Prior	17,604	23.6%
At least One Encounter in the Inpatient Care Setting in Year Prior	6,387	8.6%
At least One Encounter in the Outpatient Care Setting in Year Prior	73,656	98.6%
<b>Medical Product Use - Concurrent Use</b>		
Concurrent antidepressants with ADHD Stimulant medication for at least 7 consecutive days	46,791	62.7%
Concurrent benzodiazepines with ADHD Stimulant medication for at least 7 consecutive days	21,014	28.1%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with ADHD Stimulant medication for at least 7 consecutive days	12,460	16.7%
Concurrent antipsychotics with ADHD Stimulant medication for at least 7 consecutive days	12,307	16.5%
Concurrent ADHD Stimulant medication with ADHD Non-Stimulant medication for at least 7 consecutive days	2,775	3.7%
Concurrent All Opioid Analgesic with ADHD stimulant medication for at least 7 consecutive days	13,391	17.9%
Concurrent ADHD Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	10,585	14.2%

**Table 1m. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 45-64 Years		
Active Pharmaceutical Ingredients from Index until End of Patient's History	Number	Percent
Amphetamine Single-entity Products Immediate Release	123	0.2%
Amphetamine Single-entity Products Extended Release Oral Solid	179	0.2%
Amphetamine Single-entity Products Extended Release Oral Liquid	13	0.0%
Dextroamphetamine Single-entity Products Immediate Release	1,078	1.4%
Dextroamphetamine Single-entity Products Extended Release	684	0.9%
Amphetamine/Dextroamphetamine Combination Products Immediate	35,796	47.9%
Amphetamine/Dextroamphetamine Combination Products Extended Release	23,109	30.9%
Lisdexamfetamine Extended Release	16,191	21.7%
Methamphetamine Single-entity Products Immediate Release	19	0.0%
Methylphenidate Single-entity Products Immediate Release	13,079	17.5%
Methylphenidate Single-entity Products Extended Release Oral Solid	8,542	11.4%
Methylphenidate Single-entity Products Extended Release Oral Liquid	11	0.0%
Methylphenidate Single-entity Products Extended Release Transdermal Patch	42	0.1%
Dexmethylphenidate Single-entity Products Immediate Release	1,057	1.4%
Dexmethylphenidate Single-entity Products Extended Release	1,328	1.8%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	125	0.2%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	47,819	64.0%
Any ADHD Stimulant API Extended Release	42,729	57.2%
Atomoxetine Immediate Release	2,594	3.5%
Guanfacine Extended Release	679	0.9%
Viloxazine Extended Release	105	0.1%
Clonidine Extended Release	205	0.3%
Any ADHD Non-Stimulant API Extended Release	973	1.3%
Codeine	13	0.0%
Fentanyl	571	0.8%
Hydrocodone	14,651	19.6%
Hydromorphone	1,347	1.8%
Morphine	1,395	1.9%
Oxycodone	13,361	17.9%
Oxymorphone	50	0.1%
Other C-II Opioid Analgesics	569	0.8%

**Table 1m. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 45-64 Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	20.2	20.5
Mean number of emergency room encounters	0.5	1.6
Mean number of inpatient hospital encounters	0.1	0.6
Mean number of non-acute institutional encounters	0.0	0.3
Mean number of other ambulatory encounters	5.7	11.9
Mean number of filled prescriptions	35.2	32.8
Mean number of generics dispensed	10.5	6.9
Mean number of unique drug classes dispensed	9.7	6.0
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: F900 — Attention-Deficit Hyperactivity Disorder Inattentive Type	13,304	17.8%
Diagnosis 2: F411 — Generalized Anxiety Disorder	11,524	15.4%
Diagnosis 3: I10 — Essential Primary Hypertension	11,456	15.3%
Diagnosis 4: F909 — Attention-Deficit Hyperactivity Disorder Unspecified Type	8,863	11.9%
Diagnosis 5: F419 — Anxiety Disorder Unspecified	8,512	11.4%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

**Table 1n. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 45-64 Years		
Patient Characteristics	Number	
Unique patients	27,377	
Healthcare Payor Status	Number	Percent
Commercial payor patients	16,852	61.6%
Medicare Members	10,525	38.4%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	54.4	5.6
Age	Number	Percent
45-54 years	14,812	54.1%
55-64 years	12,565	45.9%
Sex		
Female	16,179	59.1%
Male	11,198	40.9%
Race <sup>1</sup>		
American Indian or Alaska Native	158	0.6%
Asian	207	0.8%
Black or African American	3,174	11.6%
Multi-racial	264	1.0%
Native Hawaiian or Other Pacific Islander	13	0.0%
Unknown	12,727	46.5%
White	10,834	39.6%
Hispanic origin		
Yes	665	2.4%
No	12,585	46.0%
Unknown	14,127	51.6%
Year		
2020	9,237	33.7%
2021	14,241	52.0%
2022	3,899	14.2%
Census Bureau Region <sup>2</sup>		
Invalid	*****	*****
Midwest	6,260	22.9%
Northeast	3,559	13.0%
South	12,377	45.2%
West	5,011	18.3%
Missing	*****	*****
Other	*****	*****

**Table 1n. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 45-64 Years		
Health Characteristics	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	2.8	3.1
Combined comorbidity score categories		
<=0	7,131	26.0%
1-2	9,979	36.5%
3-4	3,991	14.6%
5+	6,276	22.9%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	5,155	18.8%
ADHD Non-Stimulant Medication on index date or year prior	27,377	100.0%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	9,598	35.1%
Medication for Opioid-Related Disorders on index date or year prior	939	3.4%
Antidepressant Medication on index date or year prior	17,818	65.1%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	13,026	47.6%
Antipsychotic Medication on index date or year prior	6,846	25.0%
Mood Stabilizers on index date or year prior	4,378	16.0%
Cancer on index date or year prior	1,397	5.1%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	19,715	72.0%
ADHD on Index Date or year prior	8,718	31.8%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	604	2.2%
Narcolepsy on index date or year prior	119	0.4%
Binge-Eating Disorder on index date or year prior	162	0.6%
ADHD on Index Date or 30 days Prior	7,032	25.7%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	197	0.7%
Narcolepsy on index date or 30 days Prior	52	0.2%
Binge-Eating Disorder on index date or 30 days Prior	88	0.3%
Hypertension on index date or year prior	17,005	62.1%
Coronary artery disease on index date or year prior	5,362	19.6%
Cardiac arrhythmia on index date or year prior	5,519	20.2%
Cardiomyopathy on index date or year prior	1,217	4.4%
Cardiac structural abnormality on index date or year prior	296	1.1%
All other diseases of the circulatory system on index date or year prior	4,507	16.5%
Epilepsy or recurrent seizures on index date or year prior	1,577	5.8%
Other seizure or convulsions on index date or year prior	1,580	5.8%
Depression on index date or year prior	13,132	48.0%
Anxiety on index date or year prior	15,023	54.9%
Bipolar Disorder on index date or year prior	4,723	17.3%
Sleep Disorder on index date or year prior	12,322	45.0%
Psychotic Disorder on index date or year prior	2,266	8.3%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	3,274	12.0%
Manic Episode on index date or year prior	135	0.5%

**Table 1n. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 45-64 Years		
Health Characteristics	Number	Percent
Autistic Disorder on index date or year prior	215	0.8%
Any Substance-Related Disorders on index date or year prior	11,714	42.8%
Opioid-Related Disorders on index date or year prior	3,299	12.1%
Stimulant-Related Disorders on index date or year prior	1,501	5.5%
Cocaine-Related Disorders on index date or year prior	740	2.7%
Other Stimulant-Related Disorders on index date or year prior	964	3.5%
Alcohol-Related Disorders on index date or year prior	2,753	10.1%
Cannabis-Related Disorders on index date or year prior	1,384	5.1%
Tobacco-Related Disorders on index date or year prior	9,187	33.6%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	2,550	9.3%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	307	1.1%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	188	0.7%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	65	0.2%
Intentional Poisoning by Broad Category on index date or year prior	409	1.5%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	18,513	67.6%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	20,265	74.0%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	390	1.4%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	136	0.5%
At least One Encounter in the Emergency Department in Year Prior	11,365	41.5%
At least One Encounter in the Inpatient Care Setting in Year Prior	7,054	25.8%
At least One Encounter in the Outpatient Care Setting in Year Prior	27,203	99.4%
Medical Product Use - Concurrent Use		
Concurrent antidepressants with ADHD Non-Stimulant medication for at least 7 consecutive days	16,994	62.1%
Concurrent benzodiazepines with ADHD Non-Stimulant medication for at least 7 consecutive days	6,397	23.4%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with ADHD Non-Stimulant medication for at least 7 consecutive days	4,702	17.2%
Concurrent antipsychotics with ADHD Non-Stimulant medication for at least 7 consecutive days	6,346	23.2%
Concurrent ADHD Stimulant medication with ADHD Non-Stimulant medication for at least 7 consecutive days	4,421	16.1%
Concurrent All Opioid Analgesic with ADHD Non-stimulant medication for at least 7 consecutive days	6,624	24.2%
Concurrent ADHD Non-Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	5,365	19.6%

**Table 1n. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 45-64 Years		
Active Pharmaceutical Ingredients from Index until End of Patient's History	Number	Percent
Amphetamine Single-entity Products Immediate Release	11	0.0%
Amphetamine Single-entity Products Extended Release Oral Solid	18	0.1%
Amphetamine Single-entity Products Extended Release Oral Liquid	*****	*****
Dextroamphetamine Single-entity Products Immediate Release	151	0.6%
Dextroamphetamine Single-entity Products Extended Release	116	0.4%
Amphetamine/Dextroamphetamine Combination Products Immediate	3,028	11.1%
Amphetamine/Dextroamphetamine Combination Products Extended Release	2,313	8.4%
Lisdexamfetamine Extended Release	1,674	6.1%
Methamphetamine Single-entity Products Immediate Release	*****	*****
Methylphenidate Single-entity Products Immediate Release	1,016	3.7%
Methylphenidate Single-entity Products Extended Release Oral Solid	1,050	3.8%
Methylphenidate Single-entity Products Extended Release Oral Liquid	*****	*****
Methylphenidate Single-entity Products Extended Release Transdermal Patch	*****	*****
Dexmethylphenidate Single-entity Products Immediate Release	146	0.5%
Dexmethylphenidate Single-entity Products Extended Release	213	0.8%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	20	0.1%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	3,931	14.4%
Any ADHD Stimulant API Extended Release	4,383	16.0%
Atomoxetine Immediate Release	14,157	51.7%
Guanfacine Extended Release	2,848	10.4%
Viloxazine Extended Release	133	0.5%
Clonidine Extended Release	10,998	40.2%
Any ADHD Non-Stimulant API Extended Release	13,900	50.8%
Codeine	*****	*****
Fentanyl	348	1.3%
Hydrocodone	6,530	23.9%
Hydromorphone	694	2.5%
Morphine	774	2.8%
Oxycodone	6,065	22.2%
Oxymorphone	38	0.1%
Other C-II Opioid Analgesics	287	1.0%

**Table 1n. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 45-64 Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	35.1	44.8
Mean number of emergency room encounters	1.3	3.1
Mean number of inpatient hospital encounters	0.6	1.5
Mean number of non-acute institutional encounters	0.2	0.7
Mean number of other ambulatory encounters	13.0	24.8
Mean number of filled prescriptions	54.5	42.8
Mean number of generics dispensed	14.5	7.9
Mean number of unique drug classes dispensed	13.0	6.7
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: I10 — Essential Primary Hypertension	10,171	37.2%
Diagnosis 2: F411 — Generalized Anxiety Disorder	4,596	16.8%
Diagnosis 3: Z79899 — Other Long Term Current Drug Therapy	4,017	14.7%
Diagnosis 4: E785 — Hyperlipidemia Unspecified	3,961	14.5%
Diagnosis 5: F419 — Anxiety Disorder Unspecified	3,930	14.4%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 1o. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years		
<b>Patient Characteristics</b>	<b>Number</b>	
Unique patients	591,907	
<b>Healthcare Payor Status</b>	<b>Number</b>	<b>Percent</b>
Commercial payor patients	432,414	73.1%
Medicare Members	159,493	27.0%
<b>Demographic Characteristics</b>	<b>Mean</b>	<b>Standard Deviation</b>
Age (years)	56.6	5.5
Age	<b>Number</b>	<b>Percent</b>
45-54 years	222,105	37.5%
55-64 years	369,802	62.5%
Sex		
Female	318,473	53.8%
Male	273,434	46.2%
Race <sup>1</sup>		
American Indian or Alaska Native	2,562	0.4%
Asian	3,094	0.5%
Black or African American	43,488	7.3%
Multi-racial	5,007	0.8%
Native Hawaiian or Other Pacific Islander	374	0.1%
Unknown	337,403	57.0%
White	199,979	33.8%
Hispanic origin		
Yes	10,716	1.8%
No	208,644	35.2%
Unknown	372,547	62.9%
Year		
2020	231,055	39.0%
2021	294,573	49.8%
2022	66,279	11.2%
Census Bureau Region <sup>2</sup>		
Invalid	2,578	0.4%
Midwest	159,212	26.9%
Northeast	59,568	10.1%
South	257,562	43.5%
West	112,728	19.0%
Missing	81	0.0%
Other	178	0.0%

**Table 1o. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years		
Health Characteristics	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	2.2	3.0
Combined comorbidity score categories		
<=0	226,787	38.3%
1-2	181,243	30.6%
3-4	73,860	12.5%
5+	110,017	18.6%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	20,107	3.4%
ADHD Non-Stimulant Medication on index date or year prior	3,191	0.5%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	591,907	100.0%
Medication for Opioid-Related Disorders on index date or year prior	4,892	0.8%
Antidepressant Medication on index date or year prior	257,393	43.5%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	205,424	34.7%
Antipsychotic Medication on index date or year prior	66,597	11.3%
Mood Stabilizers on index date or year prior	35,495	6.0%
Cancer on index date or year prior	62,403	10.5%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	510,868	86.3%
ADHD on Index Date or year prior	16,461	2.8%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	3,411	0.6%
Narcolepsy on index date or year prior	1,483	0.3%
Binge-Eating Disorder on index date or year prior	1,003	0.2%
ADHD on Index Date or 30 days Prior	6,787	1.1%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	861	0.1%
Narcolepsy on index date or 30 days Prior	479	0.1%
Binge-Eating Disorder on index date or 30 days Prior	302	0.1%
Hypertension on index date or year prior	358,575	60.6%
Coronary artery disease on index date or year prior	108,275	18.3%
Cardiac arrhythmia on index date or year prior	106,496	18.0%
Cardiomyopathy on index date or year prior	23,986	4.1%
Cardiac structural abnormality on index date or year prior	6,832	1.2%
All other diseases of the circulatory system on index date or year prior	93,597	15.8%
Epilepsy or recurrent seizures on index date or year prior	21,681	3.7%
Other seizure or convulsions on index date or year prior	19,942	3.4%
Depression on index date or year prior	169,385	28.6%
Anxiety on index date or year prior	197,372	33.3%
Bipolar Disorder on index date or year prior	36,341	6.1%
Sleep Disorder on index date or year prior	221,977	37.5%
Psychotic Disorder on index date or year prior	17,811	3.0%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	24,481	4.1%
Manic Episode on index date or year prior	742	0.1%
Autistic Disorder on index date or year prior	838	0.1%

**Table 1o. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

<b>Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years</b>		
<b>Health Characteristics</b>	<b>Number</b>	<b>Percent</b>
Any Substance-Related Disorders on index date or year prior	234,492	39.6%
Opioid-Related Disorders on index date or year prior	26,699	4.5%
Stimulant-Related Disorders on index date or year prior	8,377	1.4%
Cocaine-Related Disorders on index date or year prior	4,530	0.8%
Other Stimulant-Related Disorders on index date or year prior	4,530	0.8%
Alcohol-Related Disorders on index date or year prior	31,332	5.3%
Cannabis-Related Disorders on index date or year prior	13,607	2.3%
Tobacco-Related Disorders on index date or year prior	210,824	35.6%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	53,002	9.0%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	1,632	0.3%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	967	0.2%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	341	0.1%
Intentional Poisoning by Broad Category on index date or year prior	4,066	0.7%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	573,340	96.9%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	584,413	98.7%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	3,146	0.5%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	816	0.1%
At least One Encounter in the Emergency Department in Year Prior	237,146	40.1%
At least One Encounter in the Inpatient Care Setting in Year Prior	154,690	26.1%
At least One Encounter in the Outpatient Care Setting in Year Prior	588,075	99.4%
<b>Medical Product Use - Concurrent Use</b>		
Concurrent antidepressants with C-II Opioid Analgesic for at least 7 consecutive days	226,840	38.3%
Concurrent benzodiazepines with C-II Opioid Analgesic for at least 7 consecutive days	83,535	14.1%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with C-II Opioid Analgesic for at least 7 consecutive days	52,989	9.0%
Concurrent antipsychotics with C-II Opioid Analgesic for at least 7 consecutive days	56,107	9.5%
Concurrent All Opioid Analgesic with ADHD stimulant medication for at least 7 consecutive days	16,478	2.8%
Concurrent All Opioid Analgesic with ADHD Non-stimulant medication for at least 7 consecutive days	2,773	0.5%
Concurrent ADHD Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	15,772	2.7%
Concurrent ADHD Non-Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	2,527	0.4%

**Table 1o. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years		
Active Pharmaceutical Ingredients from Index until End of Patient's History	Number	Percent
Amphetamine Single-entity Products Immediate Release	27	0.0%
Amphetamine Single-entity Products Extended Release Oral Solid	52	0.0%
Amphetamine Single-entity Products Extended Release Oral Liquid	*****	*****
Dextroamphetamine Single-entity Products Immediate Release	368	0.1%
Dextroamphetamine Single-entity Products Extended Release	229	0.0%
Amphetamine/Dextroamphetamine Combination Products Immediate	11,870	2.0%
Amphetamine/Dextroamphetamine Combination Products Extended Release	6,394	1.1%
Lisdexamfetamine Extended Release	4,702	0.8%
Methamphetamine Single-entity Products Immediate Release	*****	*****
Methylphenidate Single-entity Products Immediate Release	3,721	0.6%
Methylphenidate Single-entity Products Extended Release Oral Solid	1,958	0.3%
Methylphenidate Single-entity Products Extended Release Oral Liquid	*****	*****
Methylphenidate Single-entity Products Extended Release Transdermal Patch	15	0.0%
Dexmethylphenidate Single-entity Products Immediate Release	259	0.0%
Dexmethylphenidate Single-entity Products Extended Release	305	0.1%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	43	0.0%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	15,435	2.6%
Any ADHD Stimulant API Extended Release	12,021	2.0%
Atomoxetine Immediate Release	2,165	0.4%
Guanfacine Extended Release	428	0.1%
Viloxazine Extended Release	59	0.0%
Clonidine Extended Release	2,184	0.4%
Any ADHD Non-Stimulant API Extended Release	2,656	0.4%
Codeine	387	0.1%
Fentanyl	8,360	1.4%
Hydrocodone	371,555	62.8%
Hydromorphone	25,777	4.4%
Morphine	21,903	3.7%
Oxycodone	326,866	55.2%
Oxymorphone	166	0.0%
Other C-II Opioid Analgesics	5,251	0.9%

**Table 1o. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 45-64 Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

<b>Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years</b>		
<b>Health Service Utilization Intensity Metrics</b>	<b>Mean</b>	<b>Standard Deviation</b>
Mean number of ambulatory encounters	25.2	30.0
Mean number of emergency room encounters	1.0	2.4
Mean number of inpatient hospital encounters	0.4	1.0
Mean number of non-acute institutional encounters	0.1	0.4
Mean number of other ambulatory encounters	8.2	17.7
Mean number of filled prescriptions	40.1	35.5
Mean number of generics dispensed	12.3	6.8
Mean number of unique drug classes dispensed	10.9	5.8
<b>Most Frequent Utilization in Month Prior (-30, 0)</b>	<b>Number</b>	<b>Percent</b>
Diagnosis 1: I10 — Essential Primary Hypertension	221,849	37.5%
Diagnosis 2: Z01818 — Encounter For Other Preprocedural Examination	143,606	24.3%
Diagnosis 3: Z79899 — Other Long Term Current Drug Therapy	124,070	21.0%
Diagnosis 4: E785 — Hyperlipidemia Unspecified	110,763	18.7%
Diagnosis 5: K219 — Gastroesophageal Reflux Disease Without Esophagitis	89,379	15.1%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 1p. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 65+ Years		
Patient Characteristics	Number	
Unique patients	43,961	
Healthcare Payor Status	Number	Percent
Commercial payor patients	8,824	20.1%
Medicare Members	35,137	79.9%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	73.4	6.4
	Number	Percent
Age		
≥ 65 years	43,961	100.0%
Sex		
Female	25,466	57.9%
Male	18,495	42.1%
Race <sup>1</sup>		
American Indian or Alaska Native	89	0.2%
Asian	275	0.6%
Black or African American	1,071	2.4%
Multi-racial	76	0.2%
Native Hawaiian or Other Pacific Islander	38	0.1%
Unknown	4,498	10.2%
White	37,914	86.2%
Hispanic origin		
Yes	200	0.5%
No	37,433	85.2%
Unknown	6,328	14.4%
Year		
2020	15,310	34.8%
2021	22,184	50.5%
2022	6,467	14.7%
Census Bureau Region <sup>2</sup>		
Invalid	123	0.3%
Midwest	9,222	21.0%
Northeast	8,005	18.2%
South	17,357	39.5%
West	9,223	21.0%
Missing	*****	*****
Other	*****	*****

**Table 1p. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Health Characteristics	ADHD Stimulant Medication Patients of Age 65+ Years	
	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	3.6	3.9
Combined comorbidity score categories		
<=0	9,149	20.8%
1-2	13,608	31.0%
3-4	7,475	17.0%
5+	13,729	31.2%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	43,961	100.0%
ADHD Non-Stimulant Medication on index date or year prior	833	1.9%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	14,232	32.4%
Medication for Opioid-Related Disorders on index date or year prior	363	0.8%
Antidepressant Medication on index date or year prior	30,546	69.5%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	19,846	45.1%
Antipsychotic Medication on index date or year prior	9,031	20.5%
Mood Stabilizers on index date or year prior	3,924	8.9%
Cancer on index date or year prior	9,494	21.6%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	33,938	77.2%
ADHD on Index Date or year prior	10,496	23.9%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	368	0.8%
Narcolepsy on index date or year prior	1,117	2.5%
Binge-Eating Disorder on index date or year prior	445	1.0%
ADHD on Index Date or 30 days Prior	7,801	17.7%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	116	0.3%
Narcolepsy on index date or 30 days Prior	647	1.5%
Binge-Eating Disorder on index date or 30 days Prior	355	0.8%
Hypertension on index date or year prior	30,123	68.5%
Coronary artery disease on index date or year prior	12,581	28.6%
Cardiac arrhythmia on index date or year prior	11,047	25.1%
Cardiomyopathy on index date or year prior	1,937	4.4%
Cardiac structural abnormality on index date or year prior	549	1.2%
All other diseases of the circulatory system on index date or year prior	8,998	20.5%
Epilepsy or recurrent seizures on index date or year prior	1,376	3.1%
Other seizure or convulsions on index date or year prior	1,545	3.5%
Depression on index date or year prior	23,828	54.2%
Anxiety on index date or year prior	19,732	44.9%
Bipolar Disorder on index date or year prior	3,109	7.1%
Sleep Disorder on index date or year prior	22,534	51.3%
Psychotic Disorder on index date or year prior	1,435	3.3%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	1,696	3.9%

**Table 1p. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 65+ Years		
Health Characteristics	Number	Percent
Manic Episode on index date or year prior	91	0.2%
Autistic Disorder on index date or year prior	52	0.1%
Any Substance-Related Disorders on index date or year prior	14,926	34.0%
Opioid-Related Disorders on index date or year prior	2,351	5.3%
Stimulant-Related Disorders on index date or year prior	190	0.4%
Cocaine-Related Disorders on index date or year prior	46	0.1%
Other Stimulant-Related Disorders on index date or year prior	147	0.3%
Alcohol-Related Disorders on index date or year prior	1,670	3.8%
Cannabis-Related Disorders on index date or year prior	423	1.0%
Tobacco-Related Disorders on index date or year prior	12,500	28.4%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	1,613	3.7%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	108	0.2%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	74	0.2%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	*****	*****
Intentional Poisoning by Broad Category on index date or year prior	703	1.6%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	32,090	73.0%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	35,229	80.1%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	289	0.7%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	92	0.2%
At least One Encounter in the Emergency Department in Year Prior	14,051	32.0%
At least One Encounter in the Inpatient Care Setting in Year Prior	10,209	23.2%
At least One Encounter in the Outpatient Care Setting in Year Prior	43,839	99.7%
<b>Medical Product Use - Concurrent Use</b>		
Concurrent antidepressants with ADHD Stimulant medication for at least 7 consecutive days	29,783	67.7%
Concurrent benzodiazepines with ADHD Stimulant medication for at least 7 consecutive days	12,182	27.7%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with ADHD Stimulant medication for at least 7 consecutive days	6,473	14.7%
Concurrent antipsychotics with ADHD Stimulant medication for at least 7 consecutive days	7,110	16.2%
Concurrent ADHD Stimulant medication with ADHD Non-Stimulant medication for at least 7 consecutive days	638	1.5%
Concurrent All Opioid Analgesic with ADHD stimulant medication for at least 7 consecutive days	10,189	23.2%
Concurrent ADHD Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	7,846	17.8%

**Table 1p. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Active Pharmaceutical Ingredients from Index until End of Patient's History	ADHD Stimulant Medication Patients of Age 65+ Years	
	Number	Percent
Amphetamine Single-entity Products Immediate Release	31	0.1%
Amphetamine Single-entity Products Extended Release Oral Solid	18	0.0%
Amphetamine Single-entity Products Extended Release Oral Liquid	0	0.0%
Dextroamphetamine Single-entity Products Immediate Release	896	2.0%
Dextroamphetamine Single-entity Products Extended Release	450	1.0%
Amphetamine/Dextroamphetamine Combination Products Immediate	16,096	36.6%
Amphetamine/Dextroamphetamine Combination Products Extended Release	6,417	14.6%
Lisdexamfetamine Extended Release	2,308	5.3%
Methamphetamine Single-entity Products Immediate Release	*****	*****
Methylphenidate Single-entity Products Immediate Release	21,578	49.1%
Methylphenidate Single-entity Products Extended Release Oral Solid	2,769	6.3%
Methylphenidate Single-entity Products Extended Release Oral Liquid	*****	*****
Methylphenidate Single-entity Products Extended Release Transdermal Patch	18	0.0%
Dexmethylphenidate Single-entity Products Immediate Release	602	1.4%
Dexmethylphenidate Single-entity Products Extended Release	403	0.9%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	*****	*****
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	37,192	84.6%
Any ADHD Stimulant API Extended Release	11,312	25.7%
Atomoxetine Immediate Release	722	1.6%
Guanfacine Extended Release	110	0.3%
Viloxazine Extended Release	12	0.0%
Clonidine Extended Release	187	0.4%
Any ADHD Non-Stimulant API Extended Release	304	0.7%
Codeine	20	0.0%
Fentanyl	837	1.9%
Hydrocodone	10,411	23.7%
Hydromorphone	1,116	2.5%
Morphine	1,855	4.2%
Oxycodone	9,511	21.6%
Oxymorphone	16	0.0%
Other C-II Opioid Analgesics	479	1.1%

**Table 1p. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 65+ Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	32.2	27.3
Mean number of emergency room encounters	0.6	1.4
Mean number of inpatient hospital encounters	0.4	0.9
Mean number of non-acute institutional encounters	0.2	0.6
Mean number of other ambulatory encounters	11.7	20.3
Mean number of filled prescriptions	42.8	33.2
Mean number of generics dispensed	13.1	6.9
Mean number of unique drug classes dispensed	12.1	6.0
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: I10 — Essential Primary Hypertension	13,674	31.1%
Diagnosis 2: E785 — Hyperlipidemia Unspecified	6,697	15.2%
Diagnosis 3: Z79899 — Other Long Term Current Drug Therapy	6,360	14.5%
Diagnosis 4: R5383 — Other Fatigue	5,669	12.9%
Diagnosis 5: Z23 — Encounter For Immunization	5,577	12.7%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 1q. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 65+ Years		
Patient Characteristics	Number	
Unique patients	41,341	
Healthcare Payor Status	Number	Percent
Commercial payor patients	8,387	20.3%
Medicare Members	32,954	79.7%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	77.1	8.0
	Number	Percent
Age		
≥ 65 years	41,341	100.0%
Sex		
Female	27,582	66.7%
Male	13,759	33.3%
Race <sup>1</sup>		
American Indian or Alaska Native	197	0.5%
Asian	1,099	2.7%
Black or African American	6,533	15.8%
Multi-racial	37	0.1%
Native Hawaiian or Other Pacific Islander	55	0.1%
Unknown	4,424	10.7%
White	28,996	70.1%
Hispanic origin		
Yes	898	2.2%
No	35,256	85.3%
Unknown	5,187	12.5%
Year		
2020	14,799	35.8%
2021	21,339	51.6%
2022	5,203	12.6%
Census Bureau Region <sup>2</sup>		
Invalid	86	0.2%
Midwest	7,379	17.9%
Northeast	5,973	14.5%
South	19,494	47.2%
West	8,378	20.3%
Missing	*****	*****
Other	*****	*****

**Table 1q. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 65+ Years		
Health Characteristics	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	5.2	4.1
Combined comorbidity score categories		
<=0	5,020	12.1%
1-2	8,121	19.6%
3-4	7,452	18.0%
5+	20,748	50.2%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	1,683	4.1%
ADHD Non-Stimulant Medication on index date or year prior	41,341	100.0%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	11,171	27.0%
Medication for Opioid-Related Disorders on index date or year prior	229	0.6%
Antidepressant Medication on index date or year prior	19,750	47.8%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	13,918	33.7%
Antipsychotic Medication on index date or year prior	5,413	13.1%
Mood Stabilizers on index date or year prior	2,662	6.4%
Cancer on index date or year prior	5,945	14.4%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	33,582	81.2%
ADHD on Index Date or year prior	2,553	6.2%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	734	1.8%
Narcolepsy on index date or year prior	130	0.3%
Binge-Eating Disorder on index date or year prior	31	0.1%
ADHD on Index Date or 30 days Prior	1,947	4.7%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	235	0.6%
Narcolepsy on index date or 30 days Prior	58	0.1%
Binge-Eating Disorder on index date or 30 days Prior	18	0.0%
Hypertension on index date or year prior	38,744	93.7%
Coronary artery disease on index date or year prior	20,079	48.6%
Cardiac arrhythmia on index date or year prior	17,219	41.7%
Cardiomyopathy on index date or year prior	3,010	7.3%
Cardiac structural abnormality on index date or year prior	688	1.7%
All other diseases of the circulatory system on index date or year prior	11,905	28.8%
Epilepsy or recurrent seizures on index date or year prior	2,061	5.0%
Other seizure or convulsions on index date or year prior	2,386	5.8%
Depression on index date or year prior	14,889	36.0%
Anxiety on index date or year prior	15,953	38.6%
Bipolar Disorder on index date or year prior	1,700	4.1%
Sleep Disorder on index date or year prior	20,126	48.7%
Psychotic Disorder on index date or year prior	2,887	7.0%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	822	2.0%

**Table 1q. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 65+ Years		
Health Characteristics	Number	Percent
Manic Episode on index date or year prior	96	0.2%
Autistic Disorder on index date or year prior	33	0.1%
Any Substance-Related Disorders on index date or year prior	15,086	36.5%
Opioid-Related Disorders on index date or year prior	2,179	5.3%
Stimulant-Related Disorders on index date or year prior	265	0.6%
Cocaine-Related Disorders on index date or year prior	122	0.3%
Other Stimulant-Related Disorders on index date or year prior	152	0.4%
Alcohol-Related Disorders on index date or year prior	1,540	3.7%
Cannabis-Related Disorders on index date or year prior	380	0.9%
Tobacco-Related Disorders on index date or year prior	13,107	31.7%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	1,732	4.2%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	150	0.4%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	109	0.3%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	13	0.0%
Intentional Poisoning by Broad Category on index date or year prior	471	1.1%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	38,677	93.6%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	39,334	95.1%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	703	1.7%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	227	0.5%
At least One Encounter in the Emergency Department in Year Prior	19,123	46.3%
At least One Encounter in the Inpatient Care Setting in Year Prior	17,494	42.3%
At least One Encounter in the Outpatient Care Setting in Year Prior	41,272	99.8%
Medical Product Use - Concurrent Use		
Concurrent antidepressants with ADHD Non-Stimulant medication for at least 7 consecutive days	19,372	46.9%
Concurrent benzodiazepines with ADHD Non-Stimulant medication for at least 7 consecutive days	8,094	19.6%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with ADHD Non-Stimulant medication for at least 7 consecutive days	4,446	10.8%
Concurrent antipsychotics with ADHD Non-Stimulant medication for at least 7 consecutive days	5,126	12.4%
Concurrent ADHD Stimulant medication with ADHD Non-Stimulant medication for at least 7 consecutive days	1,180	2.9%
Concurrent All Opioid Analgesic with ADHD Non-stimulant medication for at least 7 consecutive days	9,356	22.6%
Concurrent ADHD Non-Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	6,382	15.4%

**Table 1q. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 65+ Years		
Active Pharmaceutical Ingredients from Index until End of Patient's History	Number	Percent
Amphetamine Single-entity Products Immediate Release	*****	*****
Amphetamine Single-entity Products Extended Release Oral Solid	*****	*****
Amphetamine Single-entity Products Extended Release Oral Liquid	0	0.0%
Dextroamphetamine Single-entity Products Immediate Release	54	0.1%
Dextroamphetamine Single-entity Products Extended Release	32	0.1%
Amphetamine/Dextroamphetamine Combination Products Immediate	779	1.9%
Amphetamine/Dextroamphetamine Combination Products Extended Release	414	1.0%
Lisdexamfetamine Extended Release	209	0.5%
Methamphetamine Single-entity Products Immediate Release	0	0.0%
Methylphenidate Single-entity Products Immediate Release	538	1.3%
Methylphenidate Single-entity Products Extended Release Oral Solid	205	0.5%
Methylphenidate Single-entity Products Extended Release Oral Liquid	0	0.0%
Methylphenidate Single-entity Products Extended Release Transdermal Patch	*****	*****
Dexmethylphenidate Single-entity Products Immediate Release	61	0.1%
Dexmethylphenidate Single-entity Products Extended Release	38	0.1%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	*****	*****
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	1,290	3.1%
Any ADHD Stimulant API Extended Release	785	1.9%
Atomoxetine Immediate Release	4,839	11.7%
Guanfacine Extended Release	1,008	2.4%
Viloxazine Extended Release	22	0.1%
Clonidine Extended Release	35,642	86.2%
Any ADHD Non-Stimulant API Extended Release	36,613	88.6%
Codeine	*****	*****
Fentanyl	508	1.2%
Hydrocodone	8,730	21.1%
Hydromorphone	599	1.4%
Morphine	1,433	3.5%
Oxycodone	6,272	15.2%
Oxymorphone	17	0.0%
Other C-II Opioid Analgesics	226	0.5%

**Table 1q. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 65+ Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	33.9	37.6
Mean number of emergency room encounters	1.2	2.2
Mean number of inpatient hospital encounters	0.8	1.3
Mean number of non-acute institutional encounters	0.3	0.9
Mean number of other ambulatory encounters	20.1	31.5
Mean number of filled prescriptions	57.8	46.6
Mean number of generics dispensed	15.8	7.3
Mean number of unique drug classes dispensed	14.1	6.1
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: I10 — Essential Primary Hypertension	30,349	73.4%
Diagnosis 2: E785 — Hyperlipidemia Unspecified	12,670	30.6%
Diagnosis 3: E119 — Type 2 Diabetes Mellitus Without Complications	9,172	22.2%
Diagnosis 4: I2510 — Ashd Native Coronary Artery Without Angina Pectoris	7,996	19.3%
Diagnosis 5: Z79899 — Other Long Term Current Drug Therapy	7,625	18.4%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 1r. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years		
Patient Characteristics	Number	
Unique patients	1,724,626	
Healthcare Payor Status	Number	Percent
Commercial payor patients	405,251	23.5%
Medicare Members	1,319,375	76.5%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	75.5	7.2
	Number	Percent
Age ≥ 65 years	1,724,626	100.0%
Sex		
Female	1,002,279	58.1%
Male	722,347	41.9%
Race <sup>1</sup>		
American Indian or Alaska Native	5,767	0.3%
Asian	18,691	1.1%
Black or African American	99,544	5.8%
Multi-racial	1,536	0.1%
Native Hawaiian or Other Pacific Islander	2,130	0.1%
Unknown	171,453	9.9%
White	1,425,505	82.7%
Hispanic origin		
Yes	17,808	1.0%
No	1,470,179	85.2%
Unknown	236,639	13.7%
Year		
2020	633,040	36.7%
2021	881,054	51.1%
2022	210,532	12.2%
Census Bureau Region <sup>2</sup>		
Invalid	4,276	0.3%
Midwest	443,779	25.7%
Northeast	214,100	12.4%
South	717,736	41.6%
West	343,974	19.9%
Missing	38	0.0%
Other	723	0.0%

**Table 1r. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years		
Health Characteristics	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	3.6	3.8
Combined comorbidity score categories		
<=0	404,418	23.4%
1-2	457,557	26.5%
3-4	296,069	17.2%
5+	566,582	32.9%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	14,668	0.9%
ADHD Non-Stimulant Medication on index date or year prior	5,738	0.3%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	1,724,626	100.0%
Medication for Opioid-Related Disorders on index date or year prior	3,135	0.2%
Antidepressant Medication on index date or year prior	681,419	39.5%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	485,683	28.2%
Antipsychotic Medication on index date or year prior	129,909	7.5%
Mood Stabilizers on index date or year prior	49,584	2.9%
Cancer on index date or year prior	354,096	20.5%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	1,576,292	91.4%
ADHD on Index Date or year prior	10,579	0.6%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	8,568	0.5%
Narcolepsy on index date or year prior	2,397	0.1%
Binge-Eating Disorder on index date or year prior	485	0.0%
ADHD on Index Date or 30 days Prior	4,199	0.2%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	2,260	0.1%
Narcolepsy on index date or 30 days Prior	778	0.0%
Binge-Eating Disorder on index date or 30 days Prior	128	0.0%
Hypertension on index date or year prior	1,417,962	82.2%
Coronary artery disease on index date or year prior	657,181	38.1%
Cardiac arrhythmia on index date or year prior	566,347	32.8%
Cardiomyopathy on index date or year prior	113,180	6.6%
Cardiac structural abnormality on index date or year prior	22,963	1.3%
All other diseases of the circulatory system on index date or year prior	393,439	22.8%
Epilepsy or recurrent seizures on index date or year prior	39,180	2.3%
Other seizure or convulsions on index date or year prior	39,223	2.3%
Depression on index date or year prior	457,214	26.5%
Anxiety on index date or year prior	470,980	27.3%
Bipolar Disorder on index date or year prior	30,183	1.8%
Sleep Disorder on index date or year prior	712,746	41.3%
Psychotic Disorder on index date or year prior	39,056	2.3%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	16,529	1.0%
Manic Episode on index date or year prior	1,156	0.1%
Autistic Disorder on index date or year prior	559	0.0%

**Table 1r. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years		
Health Characteristics	Number	Percent
Any Substance-Related Disorders on index date or year prior	679,491	39.4%
Opioid-Related Disorders on index date or year prior	48,668	2.8%
Stimulant-Related Disorders on index date or year prior	4,219	0.2%
Cocaine-Related Disorders on index date or year prior	2,072	0.1%
Other Stimulant-Related Disorders on index date or year prior	2,339	0.1%
Alcohol-Related Disorders on index date or year prior	51,688	3.0%
Cannabis-Related Disorders on index date or year prior	10,606	0.6%
Tobacco-Related Disorders on index date or year prior	628,711	36.5%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	78,852	4.6%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	1,765	0.1%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	1,197	0.1%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	142	0.0%
Intentional Poisoning by Broad Category on index date or year prior	14,689	0.9%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	1,711,406	99.2%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	1,719,565	99.7%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	8,440	0.5%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	2,242	0.1%
At least One Encounter in the Emergency Department in Year Prior	679,346	39.4%
At least One Encounter in the Inpatient Care Setting in Year Prior	597,861	34.7%
At least One Encounter in the Outpatient Care Setting in Year Prior	1,722,220	99.9%
<b>Medical Product Use - Concurrent Use</b>		
Concurrent antidepressants with C-II Opioid Analgesic for at least 7 consecutive days	617,801	35.8%
Concurrent benzodiazepines with C-II Opioid Analgesic for at least 7 consecutive days	208,751	12.1%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with C-II Opioid Analgesic for at least 7 consecutive days	115,421	6.7%
Concurrent antipsychotics with C-II Opioid Analgesic for at least 7 consecutive days	104,045	6.0%
Concurrent All Opioid Analgesic with ADHD stimulant medication for at least 7 consecutive days	11,793	0.7%
Concurrent All Opioid Analgesic with ADHD Non-stimulant medication for at least 7 consecutive days	4,938	0.3%
Concurrent ADHD Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	11,069	0.6%
Concurrent ADHD Non-Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	4,521	0.3%

**Table 1r. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years		
Active Pharmaceutical Ingredients from Index until End of Patient's History	Number	Percent
Amphetamine Single-entity Products Immediate Release	11	0.0%
Amphetamine Single-entity Products Extended Release Oral Solid	*****	*****
Amphetamine Single-entity Products Extended Release Oral Liquid	0	0.0%
Dextroamphetamine Single-entity Products Immediate Release	456	0.0%
Dextroamphetamine Single-entity Products Extended Release	286	0.0%
Amphetamine/Dextroamphetamine Combination Products Immediate	7,233	0.4%
Amphetamine/Dextroamphetamine Combination Products Extended Release	2,793	0.2%
Lisdexamfetamine Extended Release	1,124	0.1%
Methamphetamine Single-entity Products Immediate Release	*****	*****
Methylphenidate Single-entity Products Immediate Release	6,854	0.4%
Methylphenidate Single-entity Products Extended Release Oral Solid	1,165	0.1%
Methylphenidate Single-entity Products Extended Release Oral Liquid	*****	*****
Methylphenidate Single-entity Products Extended Release Transdermal Patch	*****	*****
Dexmethylphenidate Single-entity Products Immediate Release	207	0.0%
Dexmethylphenidate Single-entity Products Extended Release	153	0.0%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	12	0.0%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	14,023	0.8%
Any ADHD Stimulant API Extended Release	5,119	0.3%
Atomoxetine Immediate Release	1,015	0.1%
Guanfacine Extended Release	209	0.0%
Viloxazine Extended Release	20	0.0%
Clonidine Extended Release	6,389	0.4%
Any ADHD Non-Stimulant API Extended Release	6,611	0.4%
Codeine	1,156	0.1%
Fentanyl	38,946	2.3%
Hydrocodone	1,096,488	63.6%
Hydromorphone	63,833	3.7%
Morphine	119,157	6.9%
Oxycodone	862,883	50.0%
Oxymorphone	195	0.0%
Other C-II Opioid Analgesics	9,779	0.6%

**Table 1r. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 65+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	29.0	25.8
Mean number of emergency room encounters	0.8	1.7
Mean number of inpatient hospital encounters	0.5	1.0
Mean number of non-acute institutional encounters	0.2	0.6
Mean number of other ambulatory encounters	11.6	21.5
Mean number of filled prescriptions	40.2	33.6
Mean number of generics dispensed	12.5	6.1
Mean number of unique drug classes dispensed	11.3	5.2
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: I10 — Essential Primary Hypertension	933,405	54.1%
Diagnosis 2: E785 — Hyperlipidemia Unspecified	526,780	30.5%
Diagnosis 3: Z79899 — Other Long Term Current Drug Therapy	450,719	26.1%
Diagnosis 4: Z01818 — Encounter For Other Preprocedural Examination	436,607	25.3%
Diagnosis 5: K219 — Gastroesophageal Reflux Disease Without Esophagitis	334,331	19.4%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 1s. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 18+ Years		
Patient Characteristics	Number	
Unique patients	375,058	
Healthcare Payor Status	Number	Percent
Commercial payor patients	314,566	83.9%
Medicare Members	60,492	16.1%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	39.7	13.5
	Number	Percent
Age		
18-25 years	97,078	25.9%
26-29 years	36,146	9.6%
30-39 years	90,523	24.1%
40-49 years	58,418	15.6%
50-64 years	48,943	13.0%
≥ 65 years	43,950	11.7%
Sex		
Female	219,622	58.6%
Male	155,436	41.4%
Race <sup>1</sup>		
American Indian or Alaska Native	523	0.1%
Asian	2,497	0.7%
Black or African American	5,303	1.4%
Multi-racial	6,777	1.8%
Native Hawaiian or Other Pacific Islander	143	0.0%
Unknown	257,406	68.6%
White	102,409	27.3%
Hispanic origin		
Yes	5,087	1.4%
No	76,788	20.5%
Unknown	293,183	78.2%
Year		
2020	116,286	31.0%
2021	199,859	53.3%
2022	58,913	15.7%
Census Bureau Region <sup>2</sup>		
Invalid	4,159	1.1%
Midwest	83,918	22.4%
Northeast	55,041	14.7%
South	153,550	40.9%
West	78,214	20.9%
Missing	101	0.0%
Other	75	0.0%

**Table 1s. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Health Characteristics	ADHD Stimulant Medication Patients of Age 18+ Years	
	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	1.2	1.9
Combined comorbidity score categories		
<=0	175,201	46.7%
1-2	153,852	41.0%
3-4	24,565	6.5%
5+	21,440	5.7%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	375,058	100.0%
ADHD Non-Stimulant Medication on index date or year prior	19,286	5.1%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	66,544	17.7%
Medication for Opioid-Related Disorders on index date or year prior	4,415	1.2%
Antidepressant Medication on index date or year prior	199,634	53.2%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	119,115	31.8%
Antipsychotic Medication on index date or year prior	45,453	12.1%
Mood Stabilizers on index date or year prior	31,523	8.4%
Cancer on index date or year prior	15,212	4.1%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	169,354	45.2%
ADHD on Index Date or year prior	197,564	52.7%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	3,711	1.0%
Narcolepsy on index date or year prior	3,905	1.0%
Binge-Eating Disorder on index date or year prior	7,208	1.9%
ADHD on Index Date or 30 days Prior	172,432	46.0%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	1,474	0.4%
Narcolepsy on index date or 30 days Prior	2,351	0.6%
Binge-Eating Disorder on index date or 30 days Prior	6,046	1.6%
Hypertension on index date or year prior	77,478	20.7%
Coronary artery disease on index date or year prior	18,662	5.0%
Cardiac arrhythmia on index date or year prior	29,257	7.8%
Cardiomyopathy on index date or year prior	3,100	0.8%
Cardiac structural abnormality on index date or year prior	2,004	0.5%
All other diseases of the circulatory system on index date or year prior	20,349	5.4%
Epilepsy or recurrent seizures on index date or year prior	5,745	1.5%
Other seizure or convulsions on index date or year prior	5,931	1.6%
Depression on index date or year prior	145,467	38.8%
Anxiety on index date or year prior	180,083	48.0%
Bipolar Disorder on index date or year prior	28,490	7.6%
Sleep Disorder on index date or year prior	89,728	23.9%
Psychotic Disorder on index date or year prior	7,537	2.0%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	24,868	6.6%

**Table 1s. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 18+ Years		
Health Characteristics	Number	Percent
Manic Episode on index date or year prior	657	0.2%
Autistic Disorder on index date or year prior	3,742	1.0%
Any Substance-Related Disorders on index date or year prior	67,990	18.1%
Opioid-Related Disorders on index date or year prior	11,861	3.2%
Stimulant-Related Disorders on index date or year prior	4,420	1.2%
Cocaine-Related Disorders on index date or year prior	1,895	0.5%
Other Stimulant-Related Disorders on index date or year prior	3,047	0.8%
Alcohol-Related Disorders on index date or year prior	13,084	3.5%
Cannabis-Related Disorders on index date or year prior	9,376	2.5%
Tobacco-Related Disorders on index date or year prior	49,124	13.1%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	10,013	2.7%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	831	0.2%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	500	0.1%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	157	0.0%
Intentional Poisoning by Broad Category on index date or year prior	1,782	0.5%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	169,156	45.1%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	195,897	52.2%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	1,390	0.4%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	578	0.2%
At least One Encounter in the Emergency Department in Year Prior	78,285	20.9%
At least One Encounter in the Inpatient Care Setting in Year Prior	32,059	8.5%
At least One Encounter in the Outpatient Care Setting in Year Prior	363,389	96.9%
<b>Medical Product Use - Concurrent Use</b>		
Concurrent antidepressants with ADHD Stimulant medication for at least 7 consecutive days	204,436	54.5%
Concurrent benzodiazepines with ADHD Stimulant medication for at least 7 consecutive days	67,301	17.9%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with ADHD Stimulant medication for at least 7 consecutive days	43,076	11.5%
Concurrent antipsychotics with ADHD Stimulant medication for at least 7 consecutive days	45,693	12.2%
Concurrent ADHD Stimulant medication with ADHD Non-Stimulant medication for at least 7 consecutive days	14,985	4.0%
Concurrent All Opioid Analgesic with ADHD stimulant medication for at least 7 consecutive days	33,459	8.9%
Concurrent ADHD Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	25,307	6.7%

**Table 1s. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Active Pharmaceutical Ingredients from Index until End of Patient's History	ADHD Stimulant Medication Patients of Age 18+ Years	
	Number	Percent
Amphetamine Single-entity Products Immediate Release	669	0.2%
Amphetamine Single-entity Products Extended Release Oral Solid	893	0.2%
Amphetamine Single-entity Products Extended Release Oral Liquid	60	0.0%
Dextroamphetamine Single-entity Products Immediate Release	5,313	1.4%
Dextroamphetamine Single-entity Products Extended Release	3,509	0.9%
Amphetamine/Dextroamphetamine Combination Products Immediate	175,836	46.9%
Amphetamine/Dextroamphetamine Combination Products Extended Release	135,258	36.1%
Lisdexamfetamine Extended Release	82,526	22.0%
Methamphetamine Single-entity Products Immediate Release	47	0.0%
Methylphenidate Single-entity Products Immediate Release	62,819	16.7%
Methylphenidate Single-entity Products Extended Release Oral Solid	50,708	13.5%
Methylphenidate Single-entity Products Extended Release Oral Liquid	65	0.0%
Methylphenidate Single-entity Products Extended Release Transdermal Patch	233	0.1%
Dexmethylphenidate Single-entity Products Immediate Release	5,947	1.6%
Dexmethylphenidate Single-entity Products Extended Release	8,748	2.3%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	607	0.2%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	234,109	62.4%
Any ADHD Stimulant API Extended Release	235,254	62.7%
Atomoxetine Immediate Release	13,559	3.6%
Guanfacine Extended Release	4,323	1.2%
Viloxazine Extended Release	512	0.1%
Clonidine Extended Release	935	0.2%
Any ADHD Non-Stimulant API Extended Release	5,630	1.5%
Codeine	48	0.0%
Fentanyl	1,605	0.4%
Hydrocodone	50,630	13.5%
Hydromorphone	3,530	0.9%
Morphine	3,885	1.0%
Oxycodone	42,869	11.4%
Oxymorphone	92	0.0%
Other C-II Opioid Analgesics	1,309	0.3%

**Table 1s. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Stimulant Medication Patients of Age 18+ Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	16.9	18.8
Mean number of emergency room encounters	0.4	1.3
Mean number of inpatient hospital encounters	0.1	0.5
Mean number of non-acute institutional encounters	0.0	0.3
Mean number of other ambulatory encounters	5.1	10.9
Mean number of filled prescriptions	22.9	25.3
Mean number of generics dispensed	7.9	5.8
Mean number of unique drug classes dispensed	7.4	5.1
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: F900 — Attention-Deficit Hyperactivity Disorder Inattentive Type	78,923	21.0%
Diagnosis 2: F411 — Generalized Anxiety Disorder	64,825	17.3%
Diagnosis 3: F909 — Attention-Deficit Hyperactivity Disorder Unspecified Type	51,572	13.8%
Diagnosis 4: F902 — Attention-Deficit Hyperactivity Disorder Combined Type	43,805	11.7%
Diagnosis 5: F419 — Anxiety Disorder Unspecified	42,383	11.3%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

**Table 1t. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 18+ Years		
Patient Characteristics	Number	
Unique patients	128,231	
Healthcare Payor Status	Number	Percent
Commercial payor patients	75,515	58.9%
Medicare Members	52,716	41.1%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	50.6	16.8
Age	Number	Percent
18-25 years	21,768	17.0%
26-29 years	7,667	6.0%
30-39 years	21,308	16.6%
40-49 years	16,422	12.8%
50-64 years	19,730	15.4%
≥ 65 years	41,336	32.2%
Sex		
Female	77,068	60.1%
Male	51,163	39.9%
Race <sup>1</sup>		
American Indian or Alaska Native	513	0.4%
Asian	1,782	1.4%
Black or African American	11,570	9.0%
Multi-racial	1,505	1.2%
Native Hawaiian or Other Pacific Islander	88	0.1%
Unknown	59,609	46.5%
White	53,164	41.5%
Hispanic origin		
Yes	2,816	2.2%
No	58,588	45.7%
Unknown	66,827	52.1%
Year		
2020	40,917	31.9%
2021	68,200	53.2%
2022	19,114	14.9%
Census Bureau Region <sup>2</sup>		
Invalid	975	0.8%
Midwest	28,427	22.2%
Northeast	17,930	14.0%
South	55,571	43.3%
West	25,266	19.7%
Missing	16	0.0%
Other	46	0.0%

**Table 1t. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 18+ Years		
Health Characteristics	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>4</sup>	2.8	3.1
Combined comorbidity score categories		
<=0	33,406	26.1%
1-2	48,451	37.8%
3-4	16,612	13.0%
5+	29,762	23.2%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	22,791	17.8%
ADHD Non-Stimulant Medication on index date or year prior	128,231	100.0%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	29,980	23.4%
Medication for Opioid-Related Disorders on index date or year prior	2,895	2.3%
Antidepressant Medication on index date or year prior	74,852	58.4%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	49,344	38.5%
Antipsychotic Medication on index date or year prior	25,906	20.2%
Mood Stabilizers on index date or year prior	16,812	13.1%
Cancer on index date or year prior	7,759	6.1%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	77,717	60.6%
ADHD on Index Date or year prior	44,304	34.6%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	3,079	2.4%
Narcolepsy on index date or year prior	448	0.3%
Binge-Eating Disorder on index date or year prior	665	0.5%
ADHD on Index Date or 30 days Prior	36,624	28.6%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	1,151	0.9%
Narcolepsy on index date or 30 days Prior	185	0.1%
Binge-Eating Disorder on index date or 30 days Prior	351	0.3%
Hypertension on index date or year prior	64,920	50.6%
Coronary artery disease on index date or year prior	26,749	20.9%
Cardiac arrhythmia on index date or year prior	28,798	22.5%
Cardiomyopathy on index date or year prior	4,702	3.7%
Cardiac structural abnormality on index date or year prior	1,405	1.1%
All other diseases of the circulatory system on index date or year prior	19,167	14.9%
Epilepsy or recurrent seizures on index date or year prior	5,570	4.3%
Other seizure or convulsions on index date or year prior	5,932	4.6%
Depression on index date or year prior	55,904	43.6%
Anxiety on index date or year prior	67,798	52.9%
Bipolar Disorder on index date or year prior	15,905	12.4%
Sleep Disorder on index date or year prior	45,761	35.7%
Psychotic Disorder on index date or year prior	9,320	7.3%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	11,664	9.1%

**Table 1t. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 18+ Years		
Health Characteristics	Number	Percent
Manic Episode on index date or year prior	561	0.4%
Autistic Disorder on index date or year prior	2,516	2.0%
Any Substance-Related Disorders on index date or year prior	43,278	33.8%
Opioid-Related Disorders on index date or year prior	9,450	7.4%
Stimulant-Related Disorders on index date or year prior	5,476	4.3%
Cocaine-Related Disorders on index date or year prior	2,438	1.9%
Other Stimulant-Related Disorders on index date or year prior	3,985	3.1%
Alcohol-Related Disorders on index date or year prior	9,708	7.6%
Cannabis-Related Disorders on index date or year prior	7,279	5.7%
Tobacco-Related Disorders on index date or year prior	32,968	25.7%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	6,888	5.4%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	980	0.8%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	641	0.5%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	208	0.2%
Intentional Poisoning by Broad Category on index date or year prior	1,397	1.1%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	83,422	65.1%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	91,320	71.2%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	1,732	1.4%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	697	0.5%
At least One Encounter in the Emergency Department in Year Prior	47,799	37.3%
At least One Encounter in the Inpatient Care Setting in Year Prior	32,153	25.1%
At least One Encounter in the Outpatient Care Setting in Year Prior	126,447	98.6%
Medical Product Use - Concurrent Use		
Concurrent antidepressants with ADHD Non-Stimulant medication for at least 7 consecutive days	71,113	55.5%
Concurrent benzodiazepines with ADHD Non-Stimulant medication for at least 7 consecutive days	22,217	17.3%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with ADHD Non-Stimulant medication for at least 7 consecutive days	16,453	12.8%
Concurrent antipsychotics with ADHD Non-Stimulant medication for at least 7 consecutive days	24,244	18.9%
Concurrent ADHD Stimulant medication with ADHD Non-Stimulant medication for at least 7 consecutive days	21,035	16.4%
Concurrent All Opioid Analgesic with ADHD Non-stimulant medication for at least 7 consecutive days	18,632	14.5%
Concurrent ADHD Non-Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	13,739	10.7%

**Table 1t. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 18+ Years		
Active Pharmaceutical Ingredients from Index until End of Patient's History	Number	Percent
Amphetamine Single-entity Products Immediate Release	77	0.1%
Amphetamine Single-entity Products Extended Release Oral Solid	107	0.1%
Amphetamine Single-entity Products Extended Release Oral Liquid	*****	*****
Dextroamphetamine Single-entity Products Immediate Release	691	0.5%
Dextroamphetamine Single-entity Products Extended Release	515	0.4%
Amphetamine/Dextroamphetamine Combination Products Immediate	14,442	11.3%
Amphetamine/Dextroamphetamine Combination Products Extended Release	12,993	10.1%
Lisdexamfetamine Extended Release	9,763	7.6%
Methamphetamine Single-entity Products Immediate Release	11	0.0%
Methylphenidate Single-entity Products Immediate Release	4,824	3.8%
Methylphenidate Single-entity Products Extended Release Oral Solid	6,383	5.0%
Methylphenidate Single-entity Products Extended Release Oral Liquid	*****	*****
Methylphenidate Single-entity Products Extended Release Transdermal Patch	56	0.0%
Dexmethylphenidate Single-entity Products Immediate Release	876	0.7%
Dexmethylphenidate Single-entity Products Extended Release	1,360	1.1%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	137	0.1%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	18,955	14.8%
Any ADHD Stimulant API Extended Release	24,786	19.3%
Atomoxetine Immediate Release	65,625	51.2%
Guanfacine Extended Release	14,638	11.4%
Viloxazine Extended Release	587	0.5%
Clonidine Extended Release	51,371	40.1%
Any ADHD Non-Stimulant API Extended Release	66,119	51.6%
Codeine	16	0.0%
Fentanyl	969	0.8%
Hydrocodone	22,026	17.2%
Hydromorphone	1,751	1.4%
Morphine	2,481	1.9%
Oxycodone	17,969	14.0%
Oxymorphone	66	0.1%
Other C-II Opioid Analgesics	628	0.5%

**Table 1t. Aggregated Characteristics of Initiators of Attention-Deficit/Hyperactivity Disorder (ADHD) Non-Stimulant Medication, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

ADHD Non-Stimulant Medication Patients of Age 18+ Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	28.3	36.5
Mean number of emergency room encounters	1.0	2.6
Mean number of inpatient hospital encounters	0.5	1.3
Mean number of non-acute institutional encounters	0.2	0.7
Mean number of other ambulatory encounters	12.3	23.3
Mean number of filled prescriptions	42.8	38.9
Mean number of generics dispensed	12.2	7.2
Mean number of unique drug classes dispensed	11.1	6.1
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: I10 — Essential Primary Hypertension	44,753	34.9%
Diagnosis 2: F411 — Generalized Anxiety Disorder	22,772	17.8%
Diagnosis 3: F419 — Anxiety Disorder Unspecified	18,234	14.2%
Diagnosis 4: E785 — Hyperlipidemia Unspecified	17,983	14.0%
Diagnosis 5: Z79899 — Other Long Term Current Drug Therapy	16,330	12.7%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 1u. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years		
Patient Characteristics	Number	
Unique patients	2,562,228	
Healthcare Payor Status	Number	Percent
Commercial payor patients	1,046,602	40.9%
Medicare Members	1,515,626	59.2%
Demographic Characteristics	Mean	Standard Deviation
Age (years)	67.2	12.2
Age	Number	Percent
18-25 years	37,126	1.4%
26-29 years	23,436	0.9%
30-39 years	108,874	4.2%
40-49 years	172,364	6.7%
50-64 years	496,448	19.4%
≥ 65 years	1,723,980	67.3%
Sex		
Female	1,467,353	57.3%
Male	1,094,875	42.7%
Race <sup>1</sup>		
American Indian or Alaska Native	9,050	0.4%
Asian	23,468	0.9%
Black or African American	154,611	6.0%
Multi-racial	9,738	0.4%
Native Hawaiian or Other Pacific Islander	2,591	0.1%
Unknown	694,969	27.1%
White	1,667,801	65.1%
Hispanic origin		
Yes	33,806	1.3%
No	1,719,191	67.1%
Unknown	809,231	31.6%
Year		
2020	961,019	37.5%
2021	1,298,398	50.7%
2022	302,811	11.8%
Census Bureau Region <sup>2</sup>		
Invalid	8,307	0.3%
Midwest	667,948	26.1%
Northeast	292,772	11.4%
South	1,081,888	42.2%
West	510,188	19.9%
Missing	176	0.0%
Other	949	0.0%

**Table 1u. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years		
Health Characteristics	Number/Mean	Percent/Standard Deviation <sup>3</sup>
Combined comorbidity score <sup>5</sup>	3.0	3.5
Combined comorbidity score categories		
<=0	758,548	29.6%
1-2	720,445	28.1%
3-4	388,587	15.2%
5+	694,648	27.1%
Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication on index date or year prior	53,195	2.1%
ADHD Non-Stimulant Medication on index date or year prior	11,061	0.4%
Schedule II (C-II) Opioid Analgesic on Index Date or Year Prior	2,562,228	100.0%
Medication for Opioid-Related Disorders on index date or year prior	9,859	0.4%
Antidepressant Medication on index date or year prior	1,021,734	39.9%
Anxiolytic or Sedative/Hypnotic Medications on index date or year prior	760,623	29.7%
Antipsychotic Medication on index date or year prior	218,055	8.5%
Mood Stabilizers on index date or year prior	98,950	3.9%
Cancer on index date or year prior	424,867	16.6%
Non-Cancer or Chronic Pain-Related Conditions on index date or year prior	2,252,326	87.9%
ADHD on Index Date or year prior	44,212	1.7%
Conduct or Adjustment Disorders or other related disorders on index date or year prior	13,765	0.5%
Narcolepsy on index date or year prior	4,538	0.2%
Binge-Eating Disorder on index date or year prior	2,206	0.1%
ADHD on Index Date or 30 days Prior	18,265	0.7%
Conduct or Adjustment Disorders or other related disorders on index date or 30 days Prior	3,617	0.1%
Narcolepsy on index date or 30 days Prior	1,477	0.1%
Binge-Eating Disorder on index date or 30 days Prior	681	0.0%
Hypertension on index date or year prior	1,831,676	71.5%
Coronary artery disease on index date or year prior	773,758	30.2%
Cardiac arrhythmia on index date or year prior	700,424	27.3%
Cardiomyopathy on index date or year prior	140,327	5.5%
Cardiac structural abnormality on index date or year prior	32,259	1.3%
All other diseases of the circulatory system on index date or year prior	506,594	19.8%
Epilepsy or recurrent seizures on index date or year prior	69,049	2.7%
Other seizure or convulsions on index date or year prior	66,757	2.6%
Depression on index date or year prior	681,700	26.6%
Anxiety on index date or year prior	747,819	29.2%
Bipolar Disorder on index date or year prior	80,711	3.2%
Sleep Disorder on index date or year prior	985,745	38.5%
Psychotic Disorder on index date or year prior	62,666	2.4%
Post-Traumatic Stress Disorder (PTSD) on index date or year prior	53,335	2.1%
Manic Episode on index date or year prior	2,174	0.1%
Autistic Disorder on index date or year prior	2,848	0.1%

**Table 1u. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years		
Health Characteristics	Number	Percent
Any Substance-Related Disorders on index date or year prior	981,458	38.3%
Opioid-Related Disorders on index date or year prior	83,343	3.3%
Stimulant-Related Disorders on index date or year prior	15,860	0.6%
Cocaine-Related Disorders on index date or year prior	8,110	0.3%
Other Stimulant-Related Disorders on index date or year prior	9,003	0.4%
Alcohol-Related Disorders on index date or year prior	91,646	3.6%
Cannabis-Related Disorders on index date or year prior	32,339	1.3%
Tobacco-Related Disorders on index date or year prior	897,666	35.0%
Nicotine Use Excluding Tobacco-Related Disorder on index date or year prior	144,042	5.6%
Unintentional or Undetermined Poisoning by Broad Category on index date or year prior	4,041	0.2%
Opioid Poisoning or Unintentional or Undetermined Intent on index date or year prior	2,540	0.1%
Stimulant Poisoning or Unintentional or Undetermined Intent on index date or year prior	617	0.0%
Intentional Poisoning by Broad Category on index date or year prior	20,116	0.8%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or year prior	2,512,220	98.0%
No diagnosis of ADHD and no Narcolepsy and no Binge-Eating Disorder on index date or 30 days Prior	2,542,004	99.2%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or year prior	12,957	0.5%
No diagnosis of ADHD/Narcolepsy/Binge-Eating AND a diagnosis of a conduct disorder on index date or 30 days Prior	3,473	0.1%
At least One Encounter in the Emergency Department in Year Prior	1,017,451	39.7%
At least One Encounter in the Inpatient Care Setting in Year Prior	812,216	31.7%
At least One Encounter in the Outpatient Care Setting in Year Prior	2,551,783	99.6%
Medical Product Use - Concurrent Use		
Concurrent antidepressants with C-II Opioid Analgesic for at least 7 consecutive days	908,321	35.5%
Concurrent benzodiazepines with C-II Opioid Analgesic for at least 7 consecutive days	316,199	12.3%
Concurrent nonbenzodiazepine anxiolytics or sedative or hypnotics with C-II Opioid Analgesic for at least 7 consecutive days	181,741	7.1%
Concurrent antipsychotics with C-II Opioid Analgesic for at least 7 consecutive days	176,114	6.9%
Concurrent All Opioid Analgesic with ADHD stimulant medication for at least 7 consecutive days	41,255	1.6%
Concurrent All Opioid Analgesic with ADHD Non-stimulant medication for at least 7 consecutive days	9,195	0.4%
Concurrent ADHD Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	39,397	1.5%
Concurrent ADHD Non-Stimulant medication with C-II Opioid Analgesic for at least 7 consecutive days	8,445	0.3%

**Table 1u. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

	Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years	
<b>Active Pharmaceutical Ingredients from Index until End of Patient's History</b>		
Amphetamine Single-entity Products Immediate Release	86	0.0%
Amphetamine Single-entity Products Extended Release Oral Solid	124	0.0%
Amphetamine Single-entity Products Extended Release Oral Liquid	*****	*****
Dextroamphetamine Single-entity Products Immediate Release	1,175	0.0%
Dextroamphetamine Single-entity Products Extended Release	737	0.0%
Amphetamine/Dextroamphetamine Combination Products Immediate	31,653	1.2%
Amphetamine/Dextroamphetamine Combination Products Extended Release	17,428	0.7%
Lisdexamfetamine Extended Release	11,678	0.5%
Methamphetamine Single-entity Products Immediate Release	23	0.0%
Methylphenidate Single-entity Products Immediate Release	12,759	0.5%
Methylphenidate Single-entity Products Extended Release Oral Solid	5,489	0.2%
Methylphenidate Single-entity Products Extended Release Oral Liquid	*****	*****
Methylphenidate Single-entity Products Extended Release Transdermal Patch	44	0.0%
Dexmethylphenidate Single-entity Products Immediate Release	758	0.0%
Dexmethylphenidate Single-entity Products Extended Release	925	0.0%
Dexmethylphenidate/Serdexmethylphenidate Immediate Release	115	0.0%
Any ADHD Stimulant Active Pharmaceutical Ingredients (API) Immediate Release	44,067	1.7%
Any ADHD Stimulant API Extended Release	31,847	1.2%
Atomoxetine Immediate Release	5,660	0.2%
Guanfacine Extended Release	1,208	0.0%
Viloxazine Extended Release	166	0.0%
Clonidine Extended Release	9,379	0.4%
Any ADHD Non-Stimulant API Extended Release	10,706	0.4%
Codeine	1,655	0.1%
Fentanyl	48,708	1.9%
Hydrocodone	1,615,560	63.1%
Hydromorphone	97,892	3.8%
Morphine	145,742	5.7%
Oxycodone	1,323,700	51.7%
Oxymorphone	416	0.0%
Other C-II Opioid Analgesics	16,631	0.6%

**Table 1u. Aggregated Characteristics of Initiators of Schedule II (C-II) Opioid Analgesics, Age 18+ Years, in the Sentinel Distributed Database (SDD) from April 1, 2020 to March 31, 2022**

Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years		
Health Service Utilization Intensity Metrics	Mean	Standard Deviation
Mean number of ambulatory encounters	27.2	27.1
Mean number of emergency room encounters	0.9	2.0
Mean number of inpatient hospital encounters	0.5	1.0
Mean number of non-acute institutional encounters	0.1	0.5
Mean number of other ambulatory encounters	10.3	20.0
Mean number of filled prescriptions	38.6	33.9
Mean number of generics dispensed	12.2	6.3
Mean number of unique drug classes dispensed	10.9	5.4
Most Frequent Utilization in Month Prior (-30, 0)	Number	Percent
Diagnosis 1: I10 — Essential Primary Hypertension	1,186,347	46.3%
Diagnosis 2: E785 — Hyperlipidemia Unspecified	648,103	25.3%
Diagnosis 3: Z01818 — Encounter For Other Preprocedural Examination	622,138	24.3%
Diagnosis 4: Z79899 — Other Long Term Current Drug Therapy	610,902	23.8%
Diagnosis 5: K219 — Gastroesophageal Reflux Disease Without Esophagitis	443,866	17.3%

<sup>1</sup>Race data may not be completely populated at all Data Partners; therefore, data about race may be incomplete.

<sup>2</sup>Due to data partners' data privacy restrictions, any data smaller than 25 has not been included (i.e., is regarded as 0). As a result, the sum of the numbers across all states is slightly smaller than the total number of patients.

<sup>3</sup>Value represents the standard deviation where no % follows the value.

<sup>4</sup>Gagne JJ, Glynn RJ, Avorn J, Levin R, Schneeweiss S. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol.* 2011;64(7):749-759. Sun JW, Rogers JR, Her Q, Welch EC, Panozzo CA, Toh S, Gagne JJ. Adaptation and validation of the combined comorbidity score for ICD-10-CM. *Med Care.* 2017;55(12):1046-1051.

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

**Table 2a. Categorical Summary of Initiators' Cumulative Treatment Episode Durations for Exposures of Interest in the Sentinel Distributed Database (SDD) from April 1, 2020**

	Number of Patients by Cumulative Treatment Episode Duration										
	0-60 Days		61-120 Days		121-180 Days		181-240 Days		241-300 Days		
	Total Number of Patients	Percent of Total Patients	Total Number of Patients	Percent of Total Patients	Total Number of Patients	Percent of Total Patients	Total Number of Patients	Percent of Total Patients	Total Number of Patients	Percent of Total Patients	
<i>Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication Patients of Age 5+ Years</i>	501,357	35.6%	178,689	18.9%	94,843	12.6%	62,998	8.9%	44,779	6.6%	32,927
<i>ADHD Non-Stimulant Medication Patients of Age 5+ Years</i>	170,813	46.6%	79,573	19.1%	32,634	10.4%	17,717	6.6%	11,205	4.9%	8,356
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 5+ Years</i>	2,571,447	84.7%	2,177,126	6.7%	173,527	2.8%	71,578	1.6%	42,188	1.1%	29,394
<i>ADHD Stimulant Medication Patients of Age 5-17 Years</i>	126,400	34.2%	43,246	19.7%	24,893	13.4%	16,884	9.2%	11,602	6.5%	8,242
<i>ADHD Non-Stimulant Medication Patients of Age 5-17 Years</i>	42,589	39.9%	17,014	18.7%	7,958	11.8%	5,035	7.7%	3,266	5.7%	2,445
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 5-17 Years</i>	9,232	98.8%	9,123	0.6%	60	0.2%	19	*****	*****	*****	*****
<i>ADHD Stimulant Medication Patients of Age 18-25 Years</i>	97,078	37.5%	36,383	20.6%	20,016	13.1%	12,749	8.8%	8,582	6.1%	5,953
<i>ADHD Non-Stimulant Medication Patients of Age 18-25 Years</i>	21,768	55.8%	12,141	19.2%	4,178	9.9%	2,162	5.5%	1,190	3.3%	726
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 18-25 Years</i>	37,126	97.6%	36,222	1.1%	407	0.4%	166	0.2%	92	0.2%	62
<i>ADHD Stimulant Medication Patients of Age 26-44 Years</i>	159,433	32.1%	51,222	18.7%	29,784	12.9%	20,520	9.4%	15,059	7.2%	11,489

**Table 2a. Categorical Summary of Initiators' Cumulative Treatment Episode Durations for Exposures of Interest in the Sentinel Distributed Database (SDD) from April 1, 2020**

	Total Number of Patients	Number of Patients by Cumulative Treatment Episode Duration									
		0-60 Days		61-120 Days		121-180 Days		181-240 Days		241-300 Days	
		Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients
<i>ADHD Non-Stimulant Medication Patients of Age 26-44 Years</i>	37,759	20,142	53.3%	7,249	19.2%	3,630	9.6%	2,117	5.6%	1,465	3.9%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 26-44 Years</i>	209,532	187,875	89.7%	8,163	3.9%	3,624	1.7%	2,459	1.2%	1,804	0.9%
<i>ADHD Stimulant Medication Patients of Age 45-64 Years</i>	74,684	26,884	36.0%	13,057	17.5%	8,781	11.8%	6,515	8.7%	4,837	6.5%
<i>ADHD Non-Stimulant Medication Patients of Age 45-64 Years</i>	27,377	12,859	47.0%	5,391	19.7%	2,727	10.0%	1,830	6.7%	1,343	4.9%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years</i>	591,907	488,084	82.5%	40,630	6.9%	18,169	3.1%	11,536	1.9%	8,587	1.5%
<i>ADHD Stimulant Medication Patients of Age 65+ Years</i>	43,961	22,334	50.8%	7,413	16.9%	4,025	9.2%	2,815	6.4%	2,114	4.8%
<i>ADHD Non-Stimulant Medication Patients of Age 65+ Years</i>	41,341	17,573	42.5%	7,900	19.1%	4,152	10.0%	2,787	6.7%	2,344	5.7%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years</i>	1,724,626	1,458,238	84.6%	123,924	7.2%	49,337	2.9%	27,930	1.6%	18,770	1.1%
<i>ADHD Stimulant Medication Patients of Age 18+ Years</i>	375,058	136,134	36.3%	70,109	18.7%	46,069	12.3%	33,047	8.8%	24,523	6.5%
<i>ADHD Non-Stimulant Medication Patients of Age 18+ Years</i>	128,231	62,629	48.8%	24,685	19.3%	12,685	9.9%	7,928	6.2%	5,900	4.6%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years</i>	2,562,228	2,168,021	84.6%	173,463	6.8%	71,559	2.8%	42,179	1.6%	29,386	1.1%

**Table 2a. Categorical Summary of Initiators' Cumulative Treatment Episode Durations for Exposures of Interest in the Sentinel Distributed Database (SDD) from April 1, 2020**

	Number of Patients by Cumulative Treatment Episode Duration							
	301-360 Days		361-420 Days		421-480 Days		481+ Days	
	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients
<i>Attention-Deficit/Hyperactivity Disorder (ADHD) Stimulant Medication Patients of Age 5+ Years</i>	25,669	5.1%	19,728	3.9%	14,862	3.0%	26,862	5.4%
<i>ADHD Non-Stimulant Medication Patients of Age 5+ Years</i>	6,187	3.6%	4,706	2.8%	3,496	2.0%	6,939	4.1%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 5+ Years</i>	22,055	0.9%	16,196	0.6%	12,919	0.5%	26,464	1.0%
<i>ADHD Stimulant Medication Patients of Age 5-17 Years</i>	6,568	5.2%	5,154	4.1%	3,780	3.0%	6,031	4.8%
<i>ADHD Non-Stimulant Medication Patients of Age 5-17 Years</i>	1,925	4.5%	1,480	3.5%	1,151	2.7%	2,315	5.4%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 5-17 Years</i>	*****	*****	*****	*****	*****	*****	*****	*****
<i>ADHD Stimulant Medication Patients of Age 18-25 Years</i>	4,352	4.5%	3,096	3.2%	2,251	2.3%	3,696	3.8%
<i>ADHD Non-Stimulant Medication Patients of Age 18-25 Years</i>	477	2.2%	315	1.4%	217	1.0%	362	1.7%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 18-25 Years</i>	49	0.1%	38	0.1%	29	0.1%	61	0.2%
<i>ADHD Stimulant Medication Patients of Age 26-44 Years</i>	9,092	5.7%	7,064	4.4%	5,235	3.3%	9,968	6.3%

**Table 2a. Categorical Summary of Initiators' Cumulative Treatment Episode Durations for Exposures of Interest in the Sentinel Distributed Database (SDD) from April 1, 2020**

	Number of Patients by Cumulative Treatment Episode Duration							
	301-360 Days		361-420 Days		421-480 Days		481+ Days	
	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients	Number of Patients	Percent of Total Patients
<i>ADHD Non-Stimulant Medication Patients of Age 26-44 Years</i>	996	2.6%	731	1.9%	482	1.3%	947	2.5%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 26-44 Years</i>	1,427	0.7%	1,180	0.6%	946	0.5%	2,054	1.0%
<i>ADHD Stimulant Medication Patients of Age 45-64 Years</i>	3,890	5.2%	3,114	4.2%	2,490	3.3%	5,116	6.9%
<i>ADHD Non-Stimulant Medication Patients of Age 45-64 Years</i>	949	3.5%	772	2.8%	498	1.8%	1,008	3.7%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 45-64 Years</i>	6,630	1.1%	4,967	0.8%	4,191	0.7%	9,113	1.5%
<i>ADHD Stimulant Medication Patients of Age 65+ Years</i>	1,540	3.5%	1,083	2.5%	909	2.1%	1,728	3.9%
<i>ADHD Non-Stimulant Medication Patients of Age 65+ Years</i>	1,803	4.4%	1,385	3.4%	1,137	2.8%	2,260	5.5%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 65+ Years</i>	13,804	0.8%	9,900	0.6%	7,653	0.4%	15,070	0.9%
<i>ADHD Stimulant Medication Patients of Age 18+ Years</i>	18,975	5.1%	14,482	3.9%	10,990	2.9%	20,729	5.5%
<i>ADHD Non-Stimulant Medication Patients of Age 18+ Years</i>	4,245	3.3%	3,218	2.5%	2,338	1.8%	4,603	3.6%
<i>Schedule II (C-II) Opioid Analgesics Patients of Age 18+ Years</i>	22,053	0.9%	16,194	0.6%	12,916	0.5%	26,457	1.0%

\*\*\*\*\*Data are not presented in these cells due to a small sample size or to assure a small cell cannot be recalculated through the cells presented.

































































































































































































































































































































































































































































































































































