

REVIEW OF STIMULANTS AND RELATED AGENTS IN MISSISSIPPI MEDICAID

BACKGROUND

In Mississippi Medicaid, use of CNS stimulants consistently ranks at the top of drug categories in both number of claims and amount of dollars paid. More than 20,000 Medicaid beneficiaries receive stimulants and related agents monthly at average cost of around \$6,000,000 monthly to Medicaid. The utilization of short-acting and long-acting stimulants and non-stimulants in Mississippi Medicaid was assessed. Presence of attention deficit disorder (ADD) and attention deficit/hyperactivity disorder (ADHD) diagnoses was also reviewed taking into consideration the current Universal Preferred Drug List (UPDL) requirements. Beneficiaries above the age of 21 years are required to have a diagnosis of ADD/ADHD when submitting claims for stimulant medications.

ADD/ADHD are common childhood neurobehavioral disorders that can persist into adulthood. According to the 2011 National Survey on Children's Health, 11% of children in the United States ages 4-17 years had received a diagnosis of ADD/ADHD.¹ The estimated prevalence of adults aged 18-44 years in 2006 with a current ADD/ADHD diagnosis was 4.4%.² Behavioral therapy and medication management are the primary treatments for ADD/ADHD symptoms. Medications for the treatment of ADD/ADHD can be divided into two categories, stimulants and non-stimulants.

METHODS

A retrospective analysis of pharmacy claims for short-acting (SA) and long-acting (LA) stimulants and non-stimulants during calendar year 2017 and medical claims during calendar years 2015 – 2017 was conducted. An ADD/ADHD diagnosis was considered to be present if any diagnosis on medical claims contained an ICD-9 code of 314.0 or ICD-10 code of F90 within the past 24 months at the time the medication prescription was filled.

RESULTS

In calendar year 2017, children ages ≤ 17 years accounted for the majority of stimulant and non-stimulant prescriptions (87% of SA stimulants, 94% of LA stimulants, 84% of SA non-stimulants, and 95% of LA stimulants). Adults age ≥ 21 years accounted for only 10% of SA stimulants, 2% of LA stimulants, 13% of SA non-stimulants, and 1% of LA non-stimulants (Table 1).

¹ Visser S, Danielson M, Bitsko R, et al. Trends in the Parent-Report of Health Care Provider-Diagnosis and Medication Treatment for ADHD disorder: United States, 2003–2011. *J Am Acad Child Adolesc Psychiatry*. 2014;53(1):34–46.e2.

² Kessler RC, Adler L, Barkley R, Biederman J, Conners CK, Demler O, Faraone SV, Greenhill LL, Howes MJ, Secnik K, Spencer T, Ustun TB, Walters EE, Zaslavsky AM. The prevalence and correlates of adult ADHD in the United States: results from the National Comorbidity Survey Replication. *Am J Psychiatry*. 2006 Apr;163(4):716-23. PMID: 16585449

TABLE 1: Number of Prescriptions Filled for Stimulants and Non-Stimulants in 2017

	FFS				UHC				MAG			
	Age at Fill			Total	Age at Fill			Total	Age at Fill			Total
	0 to 17	18 to 20	21+		0 to 17	17 to 20	21+		0 to 17	17 to 20	21+	
Stimulants Short-Acting												
Adderall (amphetamine-dextroamphetamine)	7	0	0	7	45	5	9	59	10	0	3	13
Amphetamine-Dextroamphetamine	4,975	403	555	5,933	13,033	686	2,736	16,455	10,951	727	2,128	13,806
Dexmethylphenidate	2,486	78	9	2,573	3,751	75	22	3,848	2,875	42	22	2,939
Dextroamphetamine	66	6	0	72	146	0	20	166	197	0	6	203
Evekeo (amphetamine)	95	1	0	96	186	0	23	209	17	0	0	17
Focalin (dexmethylphenidate)	54	0	12	66	50	0	12	62	40	0	2	42
Methylin (methylphenidate)	63	0	2	65	156	1	0	157	73	0	0	73
Methylphenidate	2,245	68	56	2,369	3,830	103	132	4,065	3,656	88	153	3,897
Procentra (dextroamphetamine)	471	0	0	471	1,714	2	0	1,716	1,763	0	0	1,763
Ritalin (methylphenidate)					2	0	0	2	3	0	1	4
Zenzedi (dextroamphetamine)	5	0	0	5	6	0	0	6	5	0	1	6
Total	10,467	556	634	11,657	22,919	872	2,954	26,745	19,590	857	2,316	22,763
Stimulants Long-Acting												
Adderall XR (amphetamine-dextroamphetamine ER)	156	14	0	170	63	12	40	115	2,013	134	112	2,259
Adzenys XR-ODT (amphetamine)	1,111	31	5	1,147	2,234	37	21	2,292	1,924	19	2	1,945
Amphetamine-Dextroamphetamine ER	6,362	640	203	7,205	13,225	970	638	14,833	10,897	747	417	12,061
Aptensio XR (methylphenidate ER)	63	0	0	63	47	0	0	47	22	0	0	22
Armodafinil					10	0	41	51	0	0	57	57
Concerta (methylphenidate ER)	45	3	0	48	11	0	2	13	174	14	0	188
Cotempla XR (methylphenidate ER)	2	0	0	2	5	0	0	5	2	0	0	2
Daytrana (methylphenidate ER)	301	12	0	313	313	11	0	324	208	2	3	213
Dexmethylphenidate ER	265	5	0	270	116	4	0	120	3,108	96	34	3,238
Dextroamphetamine ER	18	1	0	19	4	0	14	18	17	0	0	17
Dyanavel XR (amphetamine)	17	0	0	17	1	0	0	1	5	0	0	5
Focalin XR (dexmethylphenidate ER)	6,435	216	47	6,698	11,698	270	77	12,045	6,640	151	26	6,817
Metadate CD (methylphenidate ER)	1,067	38	16	1,121	1,709	41	17	1,767	997	12	6	1,015
Metadate ER (methylphenidate ER)	9	0	0	9	7	0	0	7	6	1	0	7
Methylphenidate CD	105	0	0	105	259	5	1	265	533	13	0	546
Methylphenidate ER	8,219	367	110	8,696	13,723	554	154	14,431	12,259	537	112	12,908
Methylphenidate SR	37	7	1	45	34	0	1	35	14	0	0	14
Modafinil					0	0	44	44	13	4	130	147
Mydayis (amphetamine-dextroamphetamine ER)					8	0	0	8	2	0	0	2
Nuvigil (armodafinil)	1	0	0	1					0	0	33	33
Provigil (modafinil)	25	15	46	86	11	4	74	89	0	1	6	7
QuilliChew ER (methylphenidate)	1,327	9	0	1,336	2,407	18	1	2,426	2,403	5	4	2,412
Quillivant XR (methylphenidate)	2,761	14	11	2,786	4,704	20	3	4,727	4,637	15	0	4,652
Ritalin LA (methylphenidate)	17	0	0	17	2	0	0	2	33	0	0	33
Vyvanse (lisdexamfetamine)	19,438	1,165	194	20,797	41,349	1,704	1,218	44,271	36,500	1,291	895	38,686
Total	47,781	2,537	633	50,951	91,940	3,650	2,346	97,936	82,407	3,042	1,837	87,286
TOTAL ALL STIMULANTS	116,496	6,186	2,534	125,216	229,718	9,044	10,600	249,362	203,994	7,798	8,306	220,098
Non-stimulants Short-Acting												
Atomoxetine	28	0	1	29	54	5	7	66	43	2	4	49
Clonidine	10,889	703	3,355	14,947	20,354	610	3,933	24,897	18,456	549	5,472	24,477
Guanfacine	7,120	455	361	7,936	12,270	295	332	12,897	11,833	416	348	12,597
Strattera (atomoxetine)	2,412	229	99	2,740	3,818	176	198	4,192	3,231	141	138	3,510
Total	20,449	1,387	3,816	25,652	36,496	1,086	4,470	42,052	33,563	1,108	5,962	40,633
Non-stimulants Long-Acting												
Clonidine ER	973	67	49	1,089	1,167	34	6	1,207	821	48	45	914
Guanfacine ER	4,890	269	27	5,186	5,554	224	41	5,819	5,512	182	55	5,749
Intuniv (guanfacine ER)	110	10	2	122	24	0	0	24	192	3	8	203
Kapvay (clonidine ER)	70	22	0	92	14	0	0	14	17	0	0	17
Total	6,043	368	78	6,489	6,759	258	47	7,064	6,542	233	108	6,883

NOTE: At time of analysis, data were not complete for Magnolia in December.

Table 2 shows the number of first prescriptions fills in 2017 for each category and the percentage of prescriptions having an ADD/ADHD diagnosis in the medical claims within the prior 24 months. Even though a diagnosis is required for use of stimulants by adult beneficiaries, the percentage for which no diagnosis was found in the medical claims ranged across pharmacy programs and type of stimulant from 22.1% to 31.5%. Beneficiaries age ≤ 20 years taking stimulants are not required to have a diagnosis for stimulants, however, the percentage without a diagnosis in the medical claims was lower than that for adults in almost every situation, ranging from 3.6% to 27.4%.

TABLE 2: Number of First Prescription Fills in 2017 and Percentage of First Fills Associated With ADD/ADHD Diagnoses in Medical Claims*												
	FFS				UHC				MAG			
	Age at Fill			Total	Age at Fill			Total	Age at Fill			Total
	≤ 17 Years	18 to 20 Years	≥ 21 Years		≤ 17 Years	18 to 20 Years	≥ 21 Years		≤ 17 Years	18 to 20 Years	≥ 21 Years	
Stimulants Short-Acting												
Total number of first prescription fills	1,670	73	183	1,926	3,555	98	418	4,071	3,417	119	367	3,903
% No diagnosis	24.9%	27.4%	15.8%	24.1%	4.7%	11.2%	15.8%	6.0%	5.4%	13.4%	22.1%	7.3%
% ADD/ADHD diagnosis*	75.1%	72.6%	84.2%	75.9%	95.3%	88.8%	84.2%	94.0%	94.6%	86.6%	77.9%	92.7%
Stimulants Long-Acting												
Total number of first prescription fills	9,260	414	143	9,817	16,761	620	394	17,775	15,760	512	323	16,595
% No diagnosis	25.3%	22.2%	24.5%	25.2%	3.6%	7.1%	23.1%	4.1%	3.9%	7.2%	31.6%	4.5%
% ADD/ADHD diagnosis*	74.7%	77.8%	75.5%	74.8%	96.4%	92.9%	76.9%	95.9%	96.1%	92.8%	68.4%	95.5%
Non-stimulants Short-Acting												
Total number of first prescription fills	3,910	208	793	4,911	7,414	223	1,045	8,682	7,072	234	1,280	8,586
% No diagnosis	25.4%	29.8%	93.7%	36.7%	10.3%	23.3%	90.7%	20.3%	11.0%	29.1%	95.2%	24.1%
% ADD/ADHD diagnosis*	74.6%	70.2%	6.3%	63.3%	89.7%	76.7%	9.3%	79.7%	89.0%	70.9%	4.8%	75.9%
Non-stimulants Long-Acting												
Total number of first prescription fills	750	43	6	799	1,018	37	5	1,060	940	39	10	989
% No diagnosis	12.4%	23.3%	66.7%	13.4%	2.5%	0.0%	60.0%	2.6%	1.9%	2.6%	40.0%	2.3%
% ADD/ADHD diagnosis*	87.6%	76.7%	33.3%	86.6%	97.5%	100.0%	40.0%	97.4%	98.1%	97.4%	60.0%	97.7%
Intuniv and Kapvay ONLY												
Total number of first prescription fills	19	1	0	20	4	0	0	4	32	1	1	34
% No diagnosis	21.1%	100.0%	0.0%	25.0%	25.0%	0.0%	0.0%	25.0%	0.0%	100.0%	0.0%	2.9%
% ADD/ADHD diagnosis*	78.9%	0.0%	0.0%	75.0%	75.0%	0.0%	0.0%	75.0%	100.0%	0.0%	100.0%	97.1%

* At least one medical claim with an ADD/ADHD diagnosis occurred within 24 months of the new prescription fill date.

The only non-stimulants with diagnosis requirements are Intuniv and Kapvay on the UPDL. Almost all use of these products was in the age ≤ 17 year group.

- 21% in Fee-For-Service did not have a diagnoses for ADD/ADHD
- 25% in United Healthcare did not have a diagnoses for ADD/ADHD
- 0% in Magnolia did not have a diagnoses for ADD/ADHD.

CONCLUSIONS AND RECOMMENDATIONS

The percentages of children and adolescents taking stimulants and having documented diagnoses for ADD/ADHD was fairly consistent across all pharmacy programs with approximately one-fourth not having a documented diagnosis. The percentage of adults taking stimulants without a diagnosis present in the medical claims varied considerably between FFS and the two CCO programs but generally was in line with or lower than for children and adolescents.

Although non-stimulants are listed with stimulants in the UPDL as other related products for treating ADHD, requiring an ADD/ADHD diagnosis for nonstimulants would not be feasible due to the fact that these agents have indications for various other conditions in children and adults.

Recommendations:

1. DOM should require an ADD/ADHD diagnosis for children, adolescents, and adults who are prescribed stimulants to assure appropriate use and assure adequate monitoring of beneficiaries taking stimulants.