Attention-Deficit/Hyperactivity Disorder Medication Utilization Among U.S. Adults Ages 18-64 Years with Commercial Insurance or Medicare: Implications for Design of Inferential Studies

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Disclosures

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Background

- Pharmacotherapy for adult attention-deficit / hyperactivity disorder (ADHD) is increasingly common in the United States (U.S.).
- Information on incident use patterns and clinical characteristics of adults starting ADHD drugs could inform inferential safety studies.

Objective

To describe baseline characteristics and longitudinal use patterns in U.S. adults starting ADHD stimulant or non-stimulant medication.

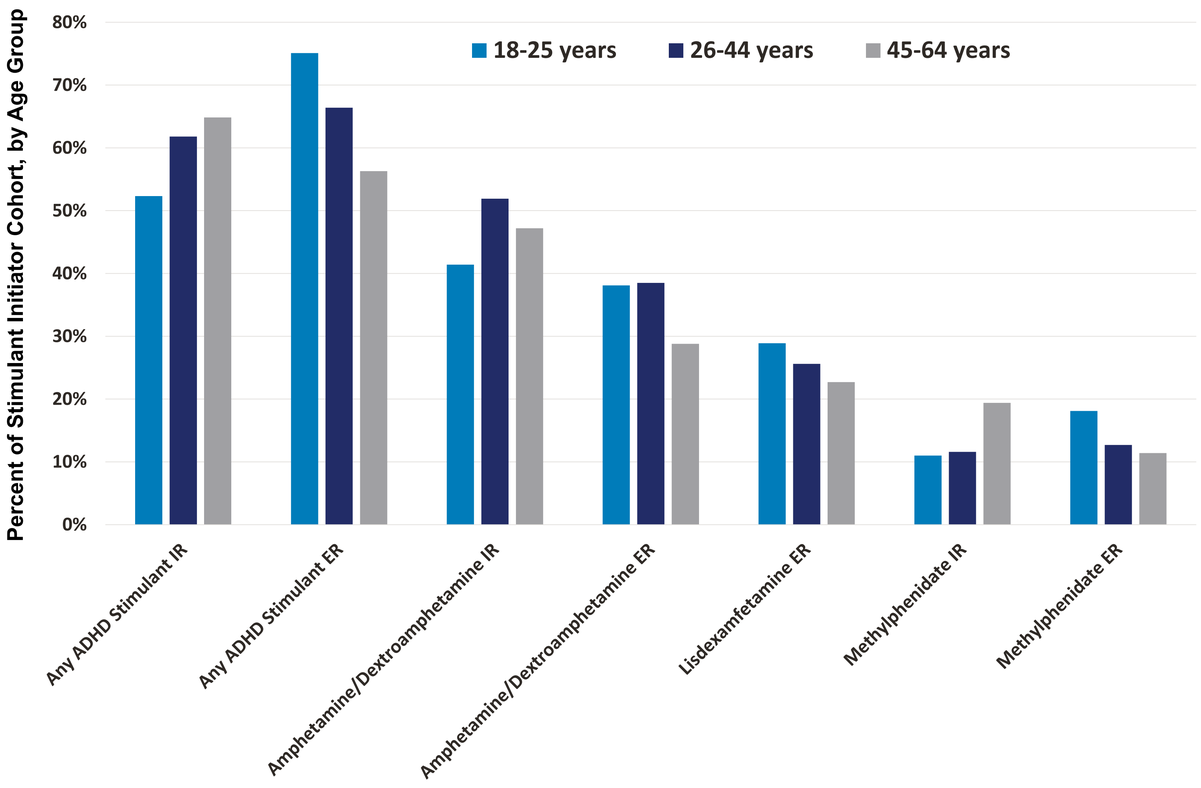
Methods

Study Design: Descriptive, retrospective cohort study
Data Source: Administrative claims from FDA's Sentinel Distributed Database
Study Population and Period: Age-specific (18-25, 26-44, 45-64 years) cohorts of patients starting ≥7 days' supply of ADHD stimulants or non-stimulants after 12 months enrollment or more of medical and drug coverage by a commercial insurance plan or Medicare Fee-For-Service, January 1, 2017 – March 31, 2023.
Exposure Measures: We used National Drug Codes corresponding to products containing:
- ADHD stimulants: amphetamine, amphetamine/dextroamphetamine, dexmethylphenidate, dexmethylphenidate/serdexmethylphenidate, dextroamphetamine, lisdexamfetamine, methamphetamine, and methylphenidate.
- ADHD non-stimulants: atomoxetine, clonidine extended release (ER), guanfacine ER, and viloxazine.

Cumulative Treatment Duration: Over all episodes, we summed days' supply plus any gaps ≤30 days, until disenrollment, death, or study end.
Concomitant Medication Use: Prescriptions dispensed with ≥7 days' supply overlap.
Statistical Analysis: We calculated descriptive statistics for baseline characteristics and use patterns and qualitatively compared them among adults prescribed stimulants vs. non-stimulants, stratified by age.

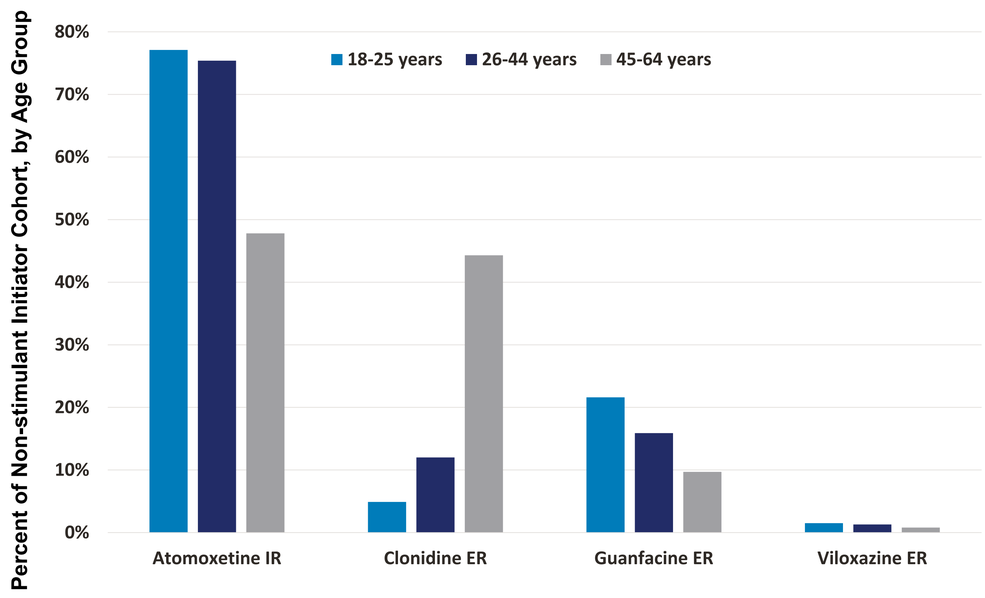
Results

Figure 1. ADHD Stimulants Dispensed At or After Index Dispensing to Initiators of ADHD Stimulants, by Age Group



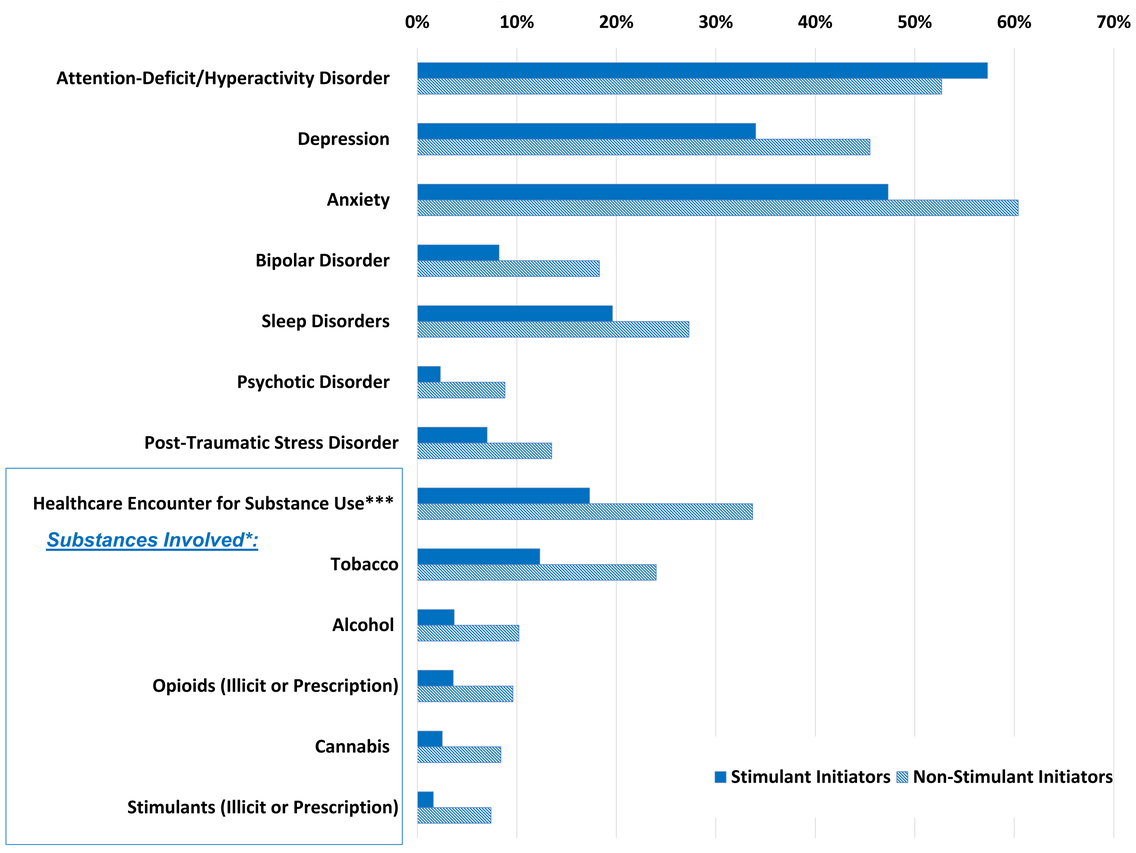
Note: Dextroamphetamine single-entity, dexmethylphenidate, and dexmethylphenidate-serdexmethylphenidate were dispensed to <5% of the population. Methamphetamine was dispensed to <1% of each age group.

Figure 2. ADHD Non-Stimulants Dispensed At or After Index Dispensing to Initiators of Non-Stimulant ADHD Medications, by Age Group



Note: Some of the clonidine ER products included were indicated for hypertension and not for ADHD.

Figure 3. Baseline Medical Diagnoses* in Initiators of Stimulant and Non-Stimulant ADHD Medications, Ages 26-44 Years**



* Patients may have had multiple diagnoses and may have had healthcare encounters involving multiple types of substances.
** Results were similar for stimulant initiators relative to non-stimulant initiators, among patients aged 18-25 years and 45-64 years.
*** Category was defined by using a broad algorithm compromising International Classification of Diseases, Tenth Revision (ICD-10), Clinical Modification diagnoses for substance use, abuse, dependence (including in remission), withdrawal, intoxication, or substance-induced psychosis; as well pharmacotherapy for substance use disorder as coded under ICD-10 Procedural Coding System and Healthcare Common Procedure Coding System.

Table 1. Baseline Characteristics and Features of Utilization Among Adults Starting ADHD Stimulants or ADHD Non-Stimulants, by Age Group

	Stimulant Initiators	Non-stimulant Initiators
18-25 years		
Number of Patients (N)	256,932	57,356
Female sex (%)	53.3%	53.5%
Commercial insurer (%)	98.3%	94.1%
Medicare beneficiary (%)	1.7%	5.9%
Baseline use of the other drug class of interest*	5.6%	31.1%
Exposure duration: cumulative, days (median, IQR)	143 (60, 334)	60 (30, 150)
Exposure duration: per episode, days (median, IQR)	60 (30, 134)	60 (30, 120)
Concomitant use of the other drug class of interest**	4.1%	25.2%
26-44 years		
Number of Patients (N)	429,678	104,927
Female sex (%)	56.2%	54.1%
Commercial payor patient (%)	91.1%	74.4%
Medicare beneficiary (%)	8.9%	25.6%
Baseline use of the other drug class of interest*	5.4%	28.3%
Exposure duration: cumulative, days (median, IQR)	194 (66, 451)	65 (30, 180)
Exposure duration: per episode, days (median, IQR)	74 (30, 202)	60 (30, 135)
Concomitant use of the other drug class of interest**	4.3%	25.8%
45-64 years		
Number of Patients (N)	228,595	87,845
Female sex (%)	63.3%	58.2%
Commercial insurer (%)	78.7%	56.6%
Medicare beneficiary (%)	21.3%	43.4%
Baseline use of the other drug class of interest*	4.4%	19.2%
Exposure duration: cumulative, days (median, IQR)	180 (60, 475)	86 (30, 239)
Exposure duration: per episode, days (median, IQR)	65 (30, 184)	67 (30, 170)
Concomitant use of the other drug class of interest**	3.6%	15.5%

* Baseline use of non-stimulants among stimulant initiators, and baseline use of stimulants among non-stimulant initiators.
** Concomitant use of non-stimulants among stimulant initiators, and concomitant use of stimulants among non-stimulant initiators.

Conclusions

Commercial and Medicare claims data for U.S. adults starting ADHD stimulant or non-stimulant medication showed patterns of baseline characteristics and utilization that can inform inferential safety studies. A substantial minority of patients starting a non-stimulant had prior or concomitant stimulant use. Patients starting a non-stimulant were more likely to have baseline behavioral health diagnoses, including substance use disorders, and had shorter treatment duration than patients starting a stimulant. .