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BRIEF REPORT

Antipsychotic Drug Prescriptions for Transition-Age Youth on the Autism Spectrum

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Abstract

Purpose Research questions included: (1) What are rates of on- versus off-label prescribing among transition age youth and young adults on the autism spectrum (with and without intellectual disability [ID]) compared to similar-aged youth with ID and a comparison group? (2) What types of antipsychotics are prescribed to transition-age youth, and what factors are associated with prescribing ?

Methods We conducted a cross-sectional analysis of 2019 U.S. Medicaid data from all states, DC, and Puerto Rico to evaluate antipsychotic prescribing in four transition-age groups aged 14–29y: autistic youth with ID (n = 108,892) and without ID (n = 218,484), an ID-only group (n = 193,733), and a comparison group without autism or ID (n = 269,819).

Results Almost half of autistic youth with ID were prescribed an antipsychotic (45%), compared to 22% of autistic youth, 19% of youth with ID, and 3% of youth with no autism or ID. Among youth taking any antipsychotic, off-label prescribing was highest for autistic youth with ID. Autistic youth with ID were more likely to be prescribed both typical and atypical antipsychotics compared to youth without autism or ID. Young adults 18–29y were significantly more likely to be prescribed atypical and typical antipsychotics compared to youth 14–17y.

Conclusion Prescribing of antipsychotics for individuals with developmental disabilities is high, particularly for those with ID. Additional research on prescribing reasons and prescriber characteristics is needed. Well-controlled longitudinal studies evaluating the short-term and long-term consequences of antipsychotic prescribing on autistic people across the lifespan is required.

Keywords Autism spectrum disorder · Antipsychotic · Mental health · Treatment · Adult · Adolescent

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Introduction

The lifetime prevalence of any psychiatric condition among autistic people is greater than 50% (Lugo-Marín, 2019), with between 37 and 42% of autistic adults having a lifetime prevalence of depression or anxiety disorders respectively (Hollocks et al., 2019). Rates of mental health conditions increase across the adolescent period into adulthood (Uljarević et al., 2020), with high rates of suicide and self-harm in autistic individuals resulting in early mortality (e.g., Hedley et al., 2018). Co-occurring mental health conditions are well-described in the literature across the lifespan among autistic people (e.g. Lai et al., 2020), and autistic people have identified mental health outcomes as a high priority for future research, with both quality of life and reduced mental health symptoms as target outcomes (Benevides et al., 2020).

In the absence of available or adequate community mental and behavioral health services delivering psychosocial care, autistic people are often prescribed psychotropic medications to manage mental health symptoms and/or reduce behaviors, with antipsychotics being the most frequently prescribed psychotropic drug class for autistic individuals (Jobski et al., 2017; Ritter et al., 2021). Two classes of antipsychotics are available for various on-label medical or behavioral reasons: atypical (or second-generation) and typical (or first-generation) antipsychotics (Christian et al., 2012). Antipsychotics may be prescribed for specific FDA-approved indications directly related to *diagnoses*, such as schizophrenia, bipolar disorder, or irritability related to autism, whereas some are employed for significant behavioral *symptoms*, such as aggression (Findling et al., 2011). Some typical antipsychotics have different therapeutic uses, including phenothiazines, which have anti-cancer, antimicrobial, and other effects (e.g., as an anti-emetic) (Babalola et al., 2024). For psychiatric uses, atypical antipsychotics are often deemed safer with fewer side effects although atypicals can still have significant side effects (e.g. metabolic effects) (Chokhawala & Stevens, 2025). And while atypical antipsychotics are the medications of choice in the treatment of psychiatric diagnoses/symptom profiles per practice parameters (e.g., Findling et al., 2011; Siegel et al., 2020; Volkmar et al., 2014), typical antipsychotics are still prescribed. It is valuable to further elucidate the patterns around prescriber's use of both first-generation typical antipsychotics and second-generation atypical antipsychotics in both on- and off-label uses.

At the time of this study, the only on-label use of antipsychotics for autistic individuals approved by the U.S. Food and Drug Administration (FDA, 2018, 2023) is for the treatment of irritability with atypical antipsychotics risperidone (5–16 years) and aripiprazole (6–17 years) (FDA, n.d.). During this transition-age period where antipsychotics are approved for on-label use in autism in the U.S., autistic people go through many service delivery shifts in education (often at age 21) and in healthcare (age 18 for Medicaid and age 26 for parent private insurance if not employed), creating developmental and system vulnerabilities that are not adequately captured in previous studies. Theoretically, "emerging adulthood" in the general population is discussed as being between 18 and 29 years (Arnett et al., 2014). U.S. Federal agencies responsible for disability programs including transition-age youth suggest ages 14–30 years is considered "transition-age" (Department of Labor, Social Security Administration, Department of Health and Human Services, and Department of Education, 2015).

Rates of antipsychotic drug prescribing for autistic people vary within systematic reviews and meta-analyses, with pediatric studies having median antipsychotic prescribing of 17% of evaluated samples and adult studies having median antipsychotic prescribing of 48% of evaluated samples (Jobski et al., 2017; Park et al., 2016). Notable gaps remain from published literature which hinder clinical decision-making about use of specific types of antipsychotics. Little is known about the clinical reasons for prescribing in this population, including the appropriateness of the drug for the person's clinical condition, the extent of polypharmacy, and examination of safety and adverse events (Park et al., 2016). Further, inconsistency in the literature on the prescribing of different types of antipsychotics (e.g., typical antipsychotics, atypical antipsychotics) hinders clinical understanding and guidance (e.g., Jobski et al., 2017).

The safety and appropriateness of antipsychotic prescribing in autistic individuals is a concern of both advocates and clinicians (National Health Service England, n.d.). Antipsychotics have risks of use, such as weight gain, sedation, diabetes, fracture, and other side effects, particularly when used for long periods of time (Lee et al., 2017; Young et al., 2014). Importantly, research is needed to understand patterns of prescribing for on- and off-label use, types of antipsychotics prescribed, and factors associated with antipsychotic prescribing in autistic individuals, particularly as new drug information and clinical training initiatives aim to better help people decide whether these medications are appropriate or needed. Additionally, most studies do not adequately examine the effect of co-occurring intellectual disability in prescribing patterns. Disaggregating autism and intellectual disability can highlight differences in outcomes and guide more tailored prescribing.

To fill this gap, we asked the following research questions: (1) What are rates of on- versus off-label prescribing among transition-age youth and young adults aged 14–29 years on the autism spectrum (with and without intellectual disability) compared to individuals with intellectual

disability as well as a comparison group without autism or ID? And (2) What types of antipsychotics (atypical, typical) are prescribed and what factors are associated with prescribing different antipsychotic medications to these groups?

Methods

Design and Data Source

We conducted a retrospective case-control cohort study using research identifiable claims from Centers for Medicare and Medicaid (CMS) Medicaid T-MSIS prescription drug data from 2019 from all states, Washington DC, and Puerto Rico. We selected Medicaid claims because approximately 53% of autistic youth in 2019–2020 were enrolled in Medicaid, representing one of the most important payers for behavioral health (Child and Adolescent Health Measurement Initiative, n.d.). Analysis of this data for health services research purposes underwent IRB approval at Drexel University (Protocol: 2501010962). All analyses were conducted at Drexel University and conformed to an existing CMS Data Use Agreement. Cell sizes of < 11 are suppressed.

Sample Identification

We compared four groups of people aged 14–29 years as of 2019: those with "autism spectrum disorder" and no intellectual disability (ICD-10 F84; "autism-only"); those with intellectual disability and no autism (ID-only; ICD-10 F70-73, "ID-only"); those on the autism spectrum with ID ("autism + ID"); and a general Medicaid transition-age sample with no autism or ID ("No autism or ID comparison"). Individuals were required to have been enrolled for 10 of 12 months with no other insurance (private or Medicare). Additionally, those without a known sex were excluded due to the extremely small size (< 0.01%). Identification of the autism or ID groups required beneficiaries to have at least one inpatient or two non-drug claims of autism and/or ID between 2008 and 2019.

Antipsychotic Drug Prescription

Our primary outcome variable was any antipsychotic drug prescription fill or refill in the 2019 claim year. Antipsychotic medications were identified using the RX files from the T-MSIS dataset, which include National Drug Codes (NDCs) for each prescription dispensed to Medicaid enrollees. We referenced the American Hospital Formulary Service (AHFS) classification system to determine which NDCs corresponded to antipsychotic agents and further categorized these into the following AHFS classes: atypical antipsychotics, butyrophenones, phenothiazines, thioxanthenes, and miscellaneous typical antipsychotics. Due to licensing restrictions, we are unable to provide the full list of NDCs associated with each AHFS classification. The FDA-approved drug list (as of June 2023) was used to determine on-label drug usage. A full list of included antipsychotics is detailed in the Appendix. We assigned "on-label" use for the following clinical conditions which are common reasons for on-label use according to Food and Drug Administration labeling guidelines: schizophrenia, bipolar, and autism (with age limitations per guidelines). There are other on-label uses for some specific antipsychotic medications, and we did not explicitly label on-label use for those (e.g., dementia), although we controlled for conditions where antipsychotic use may occur (e.g., Tourette syndrome).

Individual and Geographic Characteristics

Age was calculated at the first observed month of enrollment in 2019. *Sex* was defined as male or female. *Race and ethnicity* were quantified using existing categories from T-MSIS data (White, Black, Asian/Pacific Islander, Native Alaskan/American Indian, Hispanic, and More than one race). *Medicaid eligibility* was defined based on meeting criteria for Medicaid on the basis of "poverty", "disability", or "other". *Urbanicity* was determined by using zip code and census classification. Due to small cell sizes, the "isolated small rural town" and "small rural town" categories were collapsed into a single group. *Availability of mental health services* was quantified as whether the individual lived in a Health Professional Shortage Area for mental health (HRSA, 2024). We identified other co-occurring *mental health conditions*, including bipolar disorder, schizophrenia, and depression, using the algorithm from the Chronic Conditions Warehouse (CCW, 2025). Tic disorders and Tourette syndrome, for which antipsychotics are used in some off-label indications, were identified using ICD-10 codes F95.0, F95.1, F95.2, F95.8, and F95.9, consistent with established definitions in the literature (Rück et al., 2015; Meier et al., 2017; Leivonen et al., 2014). We applied the CCW case ascertainment criteria, which require either one inpatient or two outpatient claims on separate days. However, for depression, we modified the CCW definition by excluding codes already contained within the algorithm for bipolar, specifically F06.31, F06.32, F32.89, F32.A, and F34.0.

Analysis

Descriptive analyses to identify unadjusted rates of any antipsychotic prescribing, as well as rates of on- and off-label prescribing by group were conducted. We also quantified

rates of prescribing by group, drug classification, and age cohort. Rates were calculated as the numerator (e.g., on-label prescriptions for that group) divided by the denominator (e.g., total number of unique persons in that group). Because some unique persons were taking both an on- and off-label antipsychotic, percentages of on- and off-label do not total the "any antipsychotic" rates. Due to cell sizes being too small for reporting, thioxanthenes and miscellaneous typical antipsychotic drug types were dropped from analyses. Rates of prescribing for atypical antipsychotics, butyrophenones, and phenothiazines by age cohort and group with 95% confidence intervals were calculated. Multinomial logistic regression predicting prescribing of atypical, typical, and both atypical and typical antipsychotic prescriptions were conducted by group adjusting for individual and geographic characteristics. SAS (version 9.4) was used to process the data and R (version 4.3.3) was used to analyze the data. Output was evaluated for DUA compliance and cells with frequency counts of 1–11 were removed. Statistical significance was set at $p<.01$.

Results

The developmental disability cohort included 521,076 youth and young adults aged 14–29 years (autism-only $n=218,484$; autism + ID $n=108,892$; and ID-only $n=193,733$) compared to $n=269,819$ youth and young adults with no autism or ID in 2019 claims (Table 1). As shown in Fig. 1 (Panel A), very few Medicaid-enrolled youth or young adults without autism or ID were prescribed any antipsychotic (3%). In contrast, 45% of the autism + ID group were prescribed at least one antipsychotic, while 22% of autism-only and 19% of ID-only samples were prescribed an antipsychotic. On- and off-label prescribing (Fig. 1, Panels B and C) was

Table 1 Characteristics of transition-age youth sample

	Autism-only ($N=218,484$)		ID-only ($N=193,733$)		Autism + ID ($N=108,892$)		No autism or ID ($N=269,819$)	
	N	Col %	*N*	Col %	*N*	Col %	*N*	Col %
Co-Occurring Conditions								
Schizophrenia	6206	3.0%	11,041	5.9%	6382	6.0%	1779	0.8%
Bipolar Disorder	22,275	10.8%	19,602	10.6%	15,746	14.8%	6643	2.9%
Tic/Tourette syndrome	973	0.7%	341	0.3%	563	0.7%	78	0.1%
Depressive disorders	32,546	18.2%	24,075	15.0%	10,760	12.2%	20,786	10.3%
Age Group in Years								
14–17	118,397	57.7%	55,205	29.7%	38,608	36.2%	108,726	47.0%
18–21	55,459	27.0%	47,964	25.8%	29,562	27.8%	61,825	26.7%
22–25	27,091	13.2%	44,735	24.1%	22,536	21.2%	47,528	20.5%
26–29	17,537	8.5%	45,829	24.7%	18,186	17.1%	51,740	22.4%
Sex								
Male	168,500	82.1%	104,056	56.1%	79,299	74.4%	113,179	48.9%
Race/Ethnicity								
Asian/Pacific Islander	5283	2.6%	6683	3.6%	3988	3.7%	12,735	5.5%
Black	31,817	15.5%	47,559	25.6%	20,943	19.7%	60,888	26.3%
Hispanic/Latino	39,420	19.2%	40,134	21.6%	20,000	18.8%	82,960	35.8%
Missing	25,568	12.5%	24,043	13.0%	12,728	11.9%	17,089	7.4%
More than one	2095	1.0%	1115	0.6%	984	0.9%	1031	0.4%
Native American/Alaska Native	2425	1.2%	2280	1.2%	984	0.9%	4282	1.8%
White	111,876	54.5%	71,919	38.8%	49,265	46.2%	90,834	39.2%
Medicaid Eligibility Group								
Poverty	51,608	25.1%	26,389	14.2%	9078	8.5%	154,267	66.6%
Disability	113,827	55.4%	136,773	73.7%	88,393	83.0%	15,463	6.7%
Other	53,049	25.8%	30,571	16.5%	11,421	10.7%	100,089	43.2%
Urbanicity								
Urban	168,100	81.9%	150,716	81.2%	87,305	82.0%	215,043	92.9%
Large Rural City/Town	19,771	9.6%	18,604	10.0%	9652	9.1%	21,547	9.3%
Small Rural Town	15,899	7.7%	14,141	7.6%	7136	6.7%	16,476	7.1%
Missing	14,714	7.2%	10,272	5.5%	4799	4.5%	16,753	7.2%
Mental Health Professional Shortage Area (HPSA)								
In Mental Health HPSA	59,025	28.7%	49,185	26.5%	23,961	22.5%	69,357	30.0%

Data source: Author's analysis of the 2019 T-MSIS research identifiable files

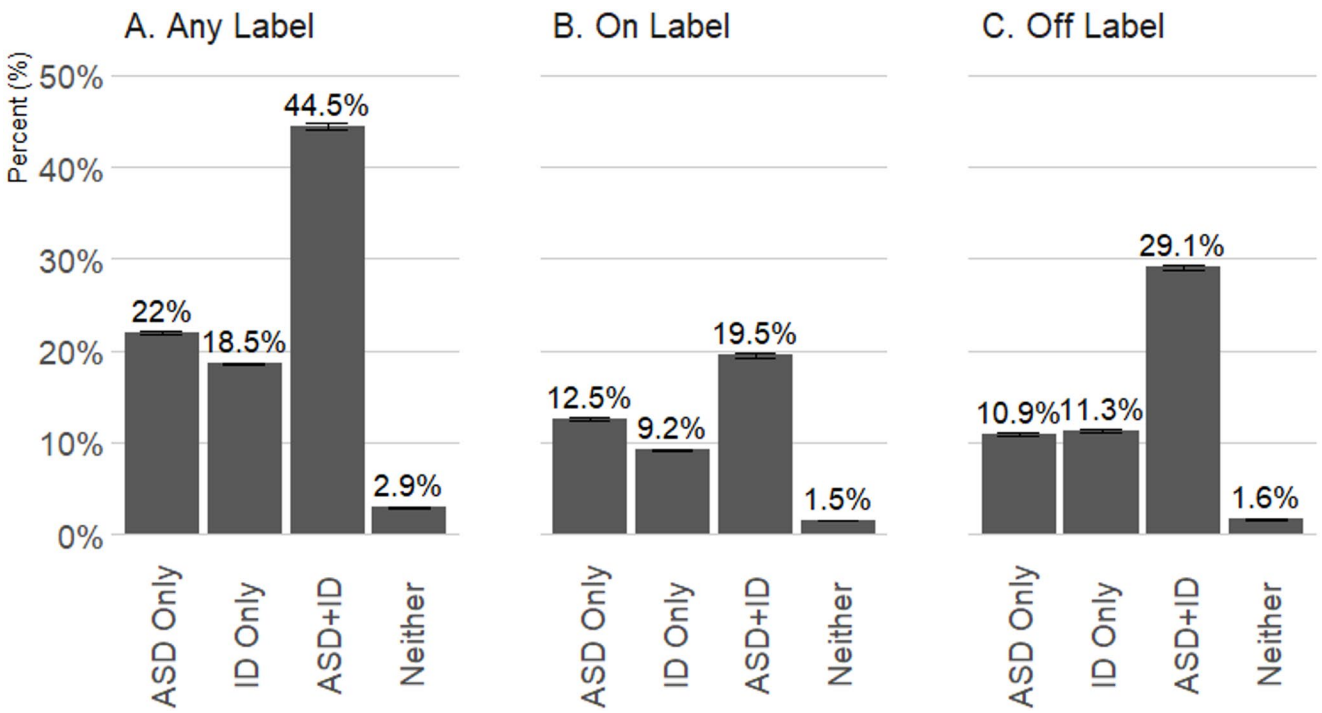

Fig. 1 Rates of on- and off-label prescribing by group among individuals aged 14–29 years

highest for autistic people with co-occurring ID (20% and 29%, respectively).

Autistic youth and young adults with intellectual disability had significantly greater likelihood of being prescribed atypical antipsychotics, typical antipsychotics, and both atypical and typical antipsychotics together compared to youth and young adults without autism or ID (Table 2). Co-occurring schizophrenia noted on the claim record was associated with greater prescribing of all antipsychotics, but particularly when individuals were prescribed both atypical and typical antipsychotics (Table 2). Rates of any antipsychotic prescription were significantly higher for each successive age cohort, but most notably among autistic youth and young adults with intellectual disability (Fig. 2; Table 2). Although autistic youth and young adults with and without intellectual disability were more likely than those with intellectual disability alone to be prescribed an atypical antipsychotic, the pattern differed for butyrophenones (Fig. 2, Panel C); those with intellectual disability alone were second most likely to be prescribed these typical antipsychotics.

Discussion

Our study extends previous work by using a large Medicaid cohort of both individuals on the autism spectrum, those with ID, and those with no autism or ID, to examine age and developmental disability trends in on- and off-label prescribing of antipsychotics across a transition-age period. Rast and colleagues (2023), who also used a longitudinal sample of Medicaid-enrolled beneficiaries, found that among autistic children aged 1–17 years approximately 28% ($n > 441{,}000$) were prescribed an antipsychotic. While they observed declining rates of antipsychotic prescriptions over time, our cross-sectional study illustrates age-related cohort increases in prescribing of antipsychotics across the transition-age period, suggesting that perhaps older autistic people are maintained on antipsychotics. This has ramifications for both the system (e.g., medication management) as well as the individual and family (e.g., supports for either safe management or safe withdrawal of medications if clinically appropriate). Further, the highest rates of *both* atypical and typical antipsychotics in 26-29y autistic cohorts observed in our study points to an urgent need to examine short-term and long-term consequences of polypharmacy and medication continuation over a person's lifespan. To date, despite calls from the autism and IDD community to limit or decrease antipsychotic prescribing, limited evidence from studies examining discontinuation of medications exist (e.g., Sheehan & Hassiotis, 2017). Further, limited evidence of the short-term efficacy or safety of antipsychotics for reducing irritability ("on-label use" in autism) exist, with a recent Cochrane meta-analysis identifying high risk of bias and limited evidence for safety and efficacy of specific antipsychotics in the short term for autistic children, with only

Table 2 Factors associated with prescribing atypical, typical, or both atypical and typical antipsychotics among youth and young adults aged 14–29 years with autism and/or intellectual disability

	Atypical Antipsychotic			Typical Antipsychotic^			Atypical + Typical		
	aOR	95% CI		aOR	95% CI		aOR	95% CI	
No autism or ID	Ref			Ref			Ref		
Autism-only	**5.95**	5.77	6.14	**7.30**	6.04	8.82	**6.54**	5.74	7.45
Autism + ID	**16.95**	16.41	17.51	**37.47**	31.07	45.19	**44.26**	38.98	50.26
ID-only	**3.81**	3.69	3.93	**6.93**	5.75	8.36	**6.11**	5.38	6.94
Co-occurring Conditions									
No co-occurring MH condition	**Ref**			**Ref**			**Ref**		
Bipolar	**11.99**	11.74	12.25	**11.56**	10.76	12.43	**19.06**	18.18	19.97
Schizophrenia	**24.26**	23.26	25.30	**44.65**	40.99	48.64	**104.55**	98.56	110.89
Tic/Tourette syndrome	**2.63**	2.36	2.94	**9.18**	7.20	11.72	**5.29**	4.26	6.58
Depression	**2.46**	2.41	2.51	**1.57**	1.44	1.72	**2.40**	2.28	2.53
Age Cohort in Years									
14–17	**Ref**			**Ref**			**Ref**		
18–21	**1.03**	1.01	1.05	**1.40**	1.27	1.54	**1.31**	1.23	1.40
22–25	**1.20**	1.18	1.23	**1.92**	1.75	2.12	**1.85**	1.74	1.98
26–29	**1.36**	1.33	1.39	**2.59**	2.35	2.85	**2.31**	2.16	2.47
Sex									
Male	**Ref**			**Ref**			**Ref**		
Female	**0.73**	0.72	0.74	**0.68**	0.63	0.73	**0.66**	0.63	0.70
Race/Ethnicity									
White	**Ref**			**Ref**			**Ref**		
Black	**0.75**	0.73	0.77	**1.10**	1.02	1.20	**0.97**	0.91	1.02
Asian/Pacific Islander	**0.73**	0.70	0.77	**0.57**	0.45	0.72	**0.66**	0.57	0.77
Hispanic/Latino	**0.69**	0.68	0.71	**0.82**	0.74	0.90	**0.70**	0.65	0.75
Native Alaskan/American	**0.79**	0.74	0.85	**0.69**	0.48	0.98	**0.87**	0.71	1.07
More than one	**0.99**	0.92	1.08	**1.28**	0.93	1.77	**0.94**	0.74	1.20
Missing	**1.03**	1.01	1.06	**1.27**	1.15	1.41	**1.23**	1.15	1.31
Medicaid Eligibility Group									
Poverty	**Ref**			**Ref**			**Ref**		
Disability	**1.73**	1.70	1.77	**1.55**	1.40	1.72	**2.09**	1.94	2.25
Other	**1.37**	1.33	1.40	**1.18**	1.04	1.35	**1.62**	1.48	1.77
Urbanicity									
Urban	**Ref**			**Ref**			**Ref**		
Large Rural City/Town	**1.01**	0.98	1.03	**1.05**	0.93	1.18	**0.98**	0.91	1.07
Small Rural Town	**1.04**	1.01	1.07	**1.07**	0.94	1.23	**1.08**	0.98	1.18
Missing	**0.90**	0.87	0.93	**1.17**	1.02	1.35	**1.07**	0.98	1.17
Mental Health Provider Shortage Area (HPSA)									
Does not live in a HPSA	**Ref**			**Ref**			**Ref**		
Lives in a HPSA	**1.12**	1.10	1.14	**0.92**	0.84	1.00	**1.05**	1.00	1.11
(Intercept)	**0.02**	0.02	0.02	**0.00**	0.00	0.00	**0.00**	0.00	0.00

^ "Typical" antipsychotic includes butyrophenones and phenothiazines

Data source: Author's analysis of the 2019 T-MSIS research identifiable files

aOR adjusted odds ratio, *CI* Confidence Interval, *ID* intellectual disability

one study examining efficacy and safety in adults (Meza et al., 2025). Even more concerning, little examination of the *long-term risks* of antipsychotics on the health of autistic people has been conducted despite evidence that exposure to antipsychotics is associated with risks later in life, including increased risk for parkinsonism (e.g., d'Errico et al., 2022). We call for increased attention to the long-term use of antipsychotics in young autistic people, particularly because of emerging literature within the autism and aging field that conditions such as dementia (e.g., Vivanti et al., 2025) and parkinsonism symptoms (e.g., Wallace et al., 2025) are higher in autistic people.

The identification of high rates of off-label use in autistic transition-age adults with ID is concerning. Although the National Committee for Quality Assurance (n.d.) emphasizes the importance of first-line psychosocial care *prior to*

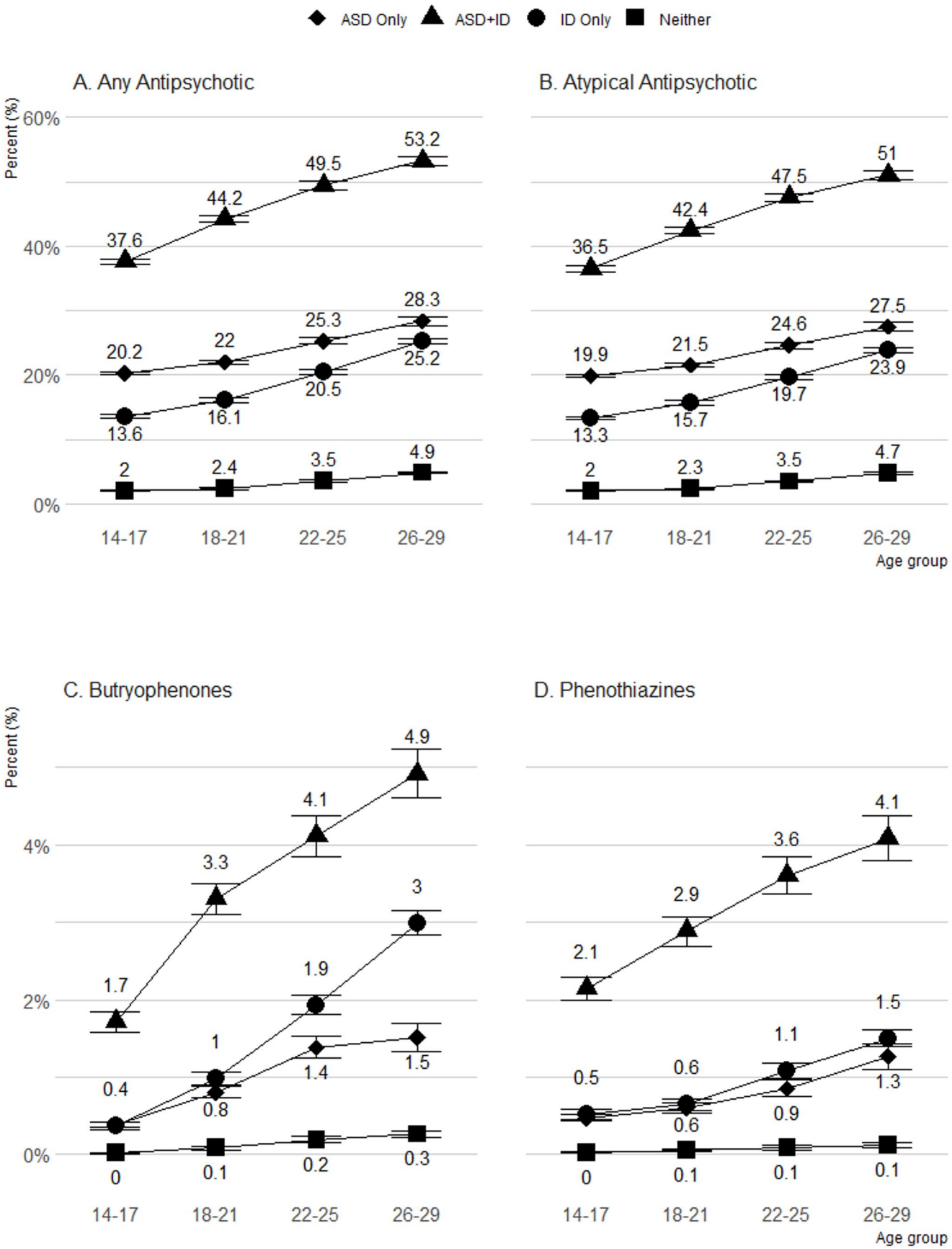

Fig. 2 Unadjusted rates of antipsychotic prescription by drug class among individuals aged 14–29 years

antipsychotic prescribing, clinicians are likely underutilizing psychosocial care for people with ID. There are some hypothesized reasons for this supported by literature. First, few adapted and tailored interventions exist for autistic youth (Dickson et al., 2021). Second, few mental health providers treat autistic youth with ID due to lack of training, lack of confidence, and lack of information on treating autistic people (LaPoint et al., 2024; Maddox et al., 2020). Few psychosocial interventions are developed and evaluated with persons with co-occurring ID. The relative paucity of clinical guidance and knowledge in supporting behavioral health needs of individuals on the autism spectrum with ID is likely contributing to higher rates of off-label antipsychotic prescribing (Adams & Young, 2021; Ramerman, Koekstra, & de Kuijper, 2018).

Autistic people experience greater likelihood of co-occurring suicide and mental health crises, particularly during the transition to adult period (e.g., Brown et al., 2024; Hedley & Uljarević, 2018). Although our study is cross-sectional, an important line of inquiry is to examine the timing of antipsychotic prescribing relative to emergency mental health care (e.g., emergency department visits), and the types of providers who both initially prescribe antipsychotics or who later manage such medications. We were unable to examine the specific place of service and specific diagnosis associated with the antipsychotic prescription or determine whether prescribing happened during a crisis or stabilization period. It is also possible that age-related cohort effects were due to formulary approvals and restrictions in each state Medicaid program, something our team plans to investigate further.

An important question raised by our findings is whether the high prescribing rates we observed, particularly among autistic individuals with co-occurring ID, can be fully explained by the prevalence of co-occurring conditions such as schizophrenia or bipolar disorder among this population (Varcin et al., 2022). While these diagnoses were strongly associated with antipsychotic use, the proportion of autistic youth with co-occurring ID prescribed antipsychotics (nearly 45%) far exceeds the proportion with these co-occurring diagnoses in our data. This suggests that systemic prescribing practices and the limited availability of tailored psychosocial interventions may also be driving high rates of antipsychotic use, especially for managing behavioral challenges in people with co-occurring ID not directly linked to FDA-approved indications. A recent systematic review of system interventions for reducing antipsychotic prescribing in children holds promise that such approaches may be evaluated in other populations and age groups (Mackie et al., 2021).

Limitations

Our study is limited to examining Medicaid-enrolled youth and young adults. Despite Medicaid being among the largest payer of mental and behavioral health supports for autistic youth and young adults, Medicaid is certainly not the only payer. During this period, youth and young adults may also be covered by parent private health insurance, and during later ages (e.g., age 20+years) may also be either dually eligible for Medicare or Medicare-only enrolled; these are groups we excluded from our analyses. Future studies should examine prescribing patterns in groups enrolled privately and Medicare-enrolled to examine whether payer status may drive prescribing patterns. Further, we did not examine the characteristics of providers who prescribe antipsychotics, such as training background (e.g., primary care versus specialist), whether they were at an academic medical center or other facility, or demographic characteristics (e.g., age), which could be associated with prescribing. An important next step for our team is to examine prescriber patterns for autistic youth and young adults. Third, our analyses represent cross-sectional evaluation of age trends, and do not evaluate how prescribing has changed over time for unique individuals, and it is possible that cohort effects (e.g., prescribing trends or policy changes such as formulary changes in Medicaid) could have affected our observed rates. Lastly, claims data are not electronic health record data and we do not have access to clinical notes that would provide context related to prescribing. Our definition of off-label is according to FDA-specific labeling guidelines; clinicians may be prescribing antipsychotics in an evidence-supported but technically "off-label" use. Future studies may consider the use of electronic health record data to examine context as well as temporal trends related to specific clinical needs and prescriber patterns over time, something that our claims data lack in detail to accomplish.

Conclusions

Antipsychotic prescribing is high among transition-age youth and young adults with developmental disabilities, particularly in those with both autism and intellectual disability. Our findings point to the need for additional research on prescribing reasons, as well as clinical guidance, knowledge, and training for providers in supporting young transition-age autistic people. Well-controlled studies on the short-term and long-term consequences of antipsychotic prescribing on autistic people is required.

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Declarations

Conflict of interest The authors declare no financial or other conflicts of interest.

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