

Supplementary Material

Article Title: Investigating Real-World Benzotropine Usage Patterns in Movement Disorders: Claims Analysis and Health Care Provider Survey Results

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DISCLAIMER

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Supplementary table 1. Healthcare claims analysis: study attrition

Inclusion criteria		Benzotropine cases	
		Patients excluded, n (%)	Patients remaining, n (%)
#1	≥2 non-same-day pharmacy claims for benzotropine during the selection window		738,207
#2	Continuous enrollment with medical and pharmacy benefits for six months (180 days) preceding the index date	492,429 (66.7)	245,778 (33.3)
#3	Continuous enrollment with medical and pharmacy benefits for at least 12 months (360 days) starting on the index date ^a	43,682 (5.9)	202,096 (27.4)
#4	Patient linkage between medical and prescription databases	0	202,096 (27.4)
#5	Pharmacy stability in the 6-month pre-index period and 12-month post-index period, defined as consistent reporting of data from the most frequent pharmacy visited of the patient and ≥80% coverage rate for each month in the 6-month pre-index period and the 12-month post-index period, with >1 claim beyond both intervals.	18,835 (2.6)	183,261 (24.8)
#6	≥1 pharmacy claim for an antipsychotic in the pre-index period or on the index date	17,348 (2.4)	165,913 (22.5)
#7	Age ≥18 years on the index date	8,655 (1.2)	157,258 (21.3)
Exclusion criteria			
#8	Benzotropine exposure during the pre-index period	44,716 (6.1)	112,542 (15.2)
#9	Data quality issues (ie, invalid year of birth, missing gender)	0	112,542 (15.2)
Final sample			
	12-month post-index data	-	112,542 (15.2)
	≥24 months post-index data (subset)	-	73,836 (10.0)

^a As a proxy for continuous enrollment, patients are required to have ≥1 office visit claim OR ≥1 prescription claim during the pre- and post-index periods, consisting of >1 claim (either medical or prescription) in the 6-month pre-index period and >1 claim in the 12-month post-index period.

Supplementary table 2. Healthcare claims analysis: HCRU and costs in 12- and 24-month cohorts

	Patients with 12 months post-index (N=112,542)	Patients with ≥24 months post-index (N=73,836)
Benztropine utilization duration, n (%)		
Up to 3 months	49,832 (44.3)	33,409 (45.2)
>3 to 6 months	19,606 (17.4)	12,555 (17.0)
>6 to 12 months	28,848 (25.6)	10,530 (14.3)
>12 to 24 months	14,256 (12.7)	12,118 (16.4)
>24 months	NA	5,224 (7.1)
Costs, mean ± SD, \$		
All-cause healthcare costs	\$11,755 ± \$22,577	\$23,128 ± \$30,914
Pharmacy	\$9,229 ± \$21,526	\$18,148 ± \$28,480
Outpatient ^a	\$2,526 ± \$5,927	\$4,980 ± \$9,917
ED	\$455 ± \$1,232	\$904 ± \$2,266
Physician office visit	\$724 ± \$3,155	\$1,418 ± \$4,257
Ambulatory surgery center	\$106 ± \$1,037	\$224 ± \$1,766
Home visits	\$0 ± \$37	\$0 ± \$45
Inpatient	\$34,669 ± \$56,979	\$41,280 ± \$69,073
HCRU, n (%)		
Patients with >1 ED visit	53,236 (47.3)	45,131 (61.1)
Patients with >1 physician office visit	88,813 (78.9)	64,476 (87.3)
Patients with >1 inpatient stay	4,545 (4.0)	4,849 (6.6)

^a Costs listed under outpatient may not equal the total outpatient costs, as not all categories were reported.

Abbreviations: ED – emergency department; HCRU – healthcare resource utilization; NA – not applicable; SD – standard deviation.

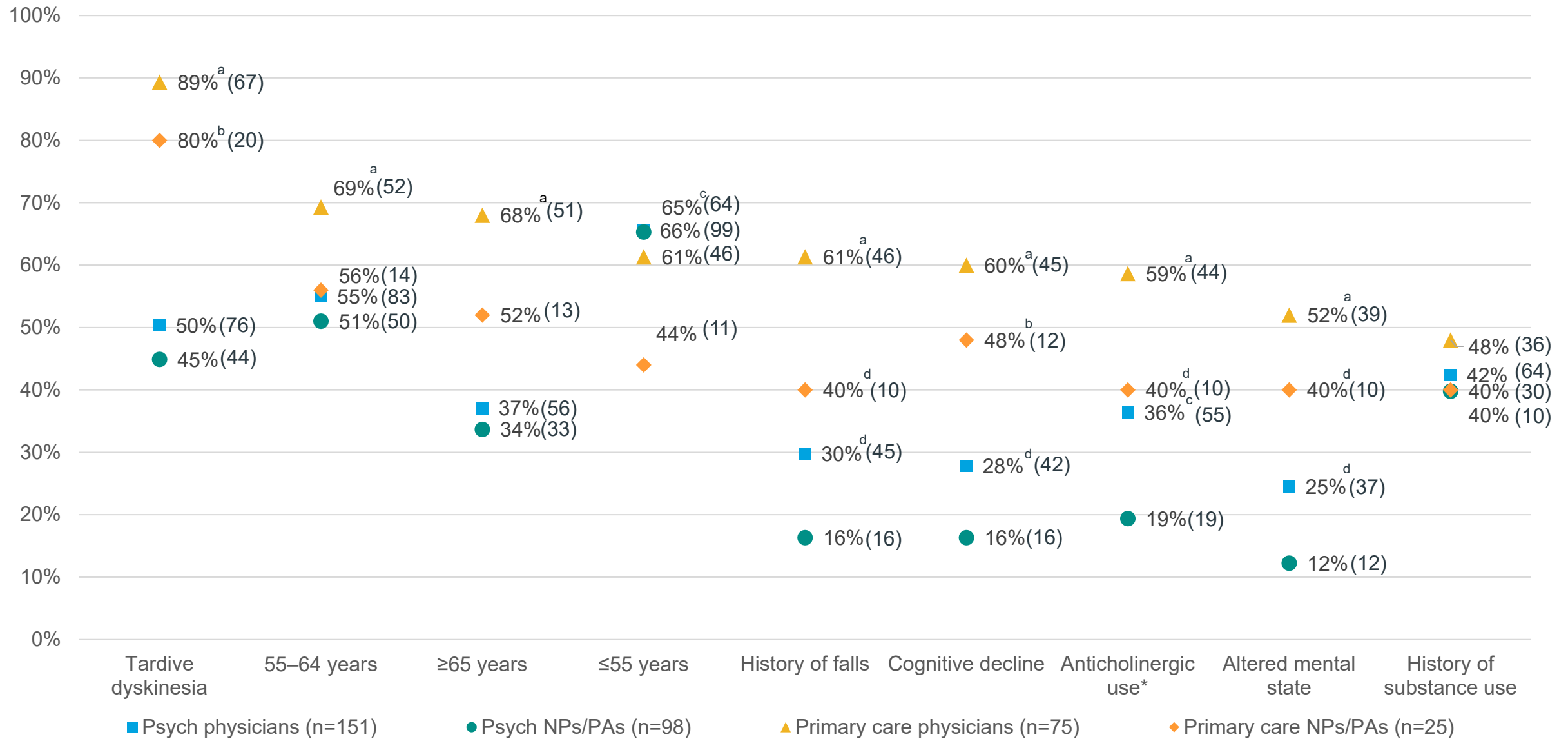
Supplementary table 3. Healthcare provider survey: healthcare provider demographics

	Psychiatric physicians n=151	Psychiatric NP/PAs n=98	Primary care physicians n=75	Primary care NP/PAs n=25
Years in practice, mean	19	11	21	10
Number of DIMD patients, mean	60	36	58	38
Number of patients treated with benztropine, mean	23	17	24	15
Outpatient practice location ^a , % of time spent				
Private office	39%	39%	71%	58%
Outpatient clinic at teaching hospital	16%	9%	8%	23%
Outpatient clinic in community hospital	15%	11%	11%	12%

^a Percentages do not equal 100% as not all categories were reported (ie, community mental health clinic, long-term care, group home, assertive community treatment, or other).

Abbreviations: DIMD – drug-induced movement disorder; NP – nurse practitioner; PA – physician assistant.

Supplementary figure 1. Healthcare provider survey: likelihood to treat various patient types with bantropine, % (n) of HCPs, “somewhat” or “extremely” likely



*Anticholinergic use includes medication with anticholinergic properties used for conditions other than drug-induced movement disorders.

^a $P < .05$ vs psych physicians, psych NPs/PAs, and primary care NPs/PAs

^b $P < .05$ vs psych physicians and psych NPs/PAs

^c $P < .05$ vs primary care PAs/NPs

^d $P < .05$ vs psych NP/PAs

Abbreviations: HCP = health care provider, NP = nurse practitioner, PA = physician assistant, psych = psychiatric.