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National Prescribing Practices for Dystonia Among Providers in the United States

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Background & Objective

- Limited information exists on current prescribing practices for dystonia. Insufficient understanding of current prescribing practices limits the ability to standardize treatment and provide comparable care to all dystonia patients.
- This study analyzes the prescribing practices for dystonia in the United States, evaluating variations in dosing and impact of co-morbidities.

Methods

- Real World Cerner database was queried from 2014-2019 for pts age 0-18 with an ICD-10 diagnosis of "dystonia"
- 6,728 inpatient and outpatient encounters used.
- Medications queried included those recommended by the AACPDMD dystonia care pathway.
- Study evaluated the medication prescriptions, dosing, current weight at time of encounter, and co-morbid diagnoses of CP, epilepsy, and/or spasticity.

Results

Figure 1. Medications Prescribed Among All Patients with Dystonia

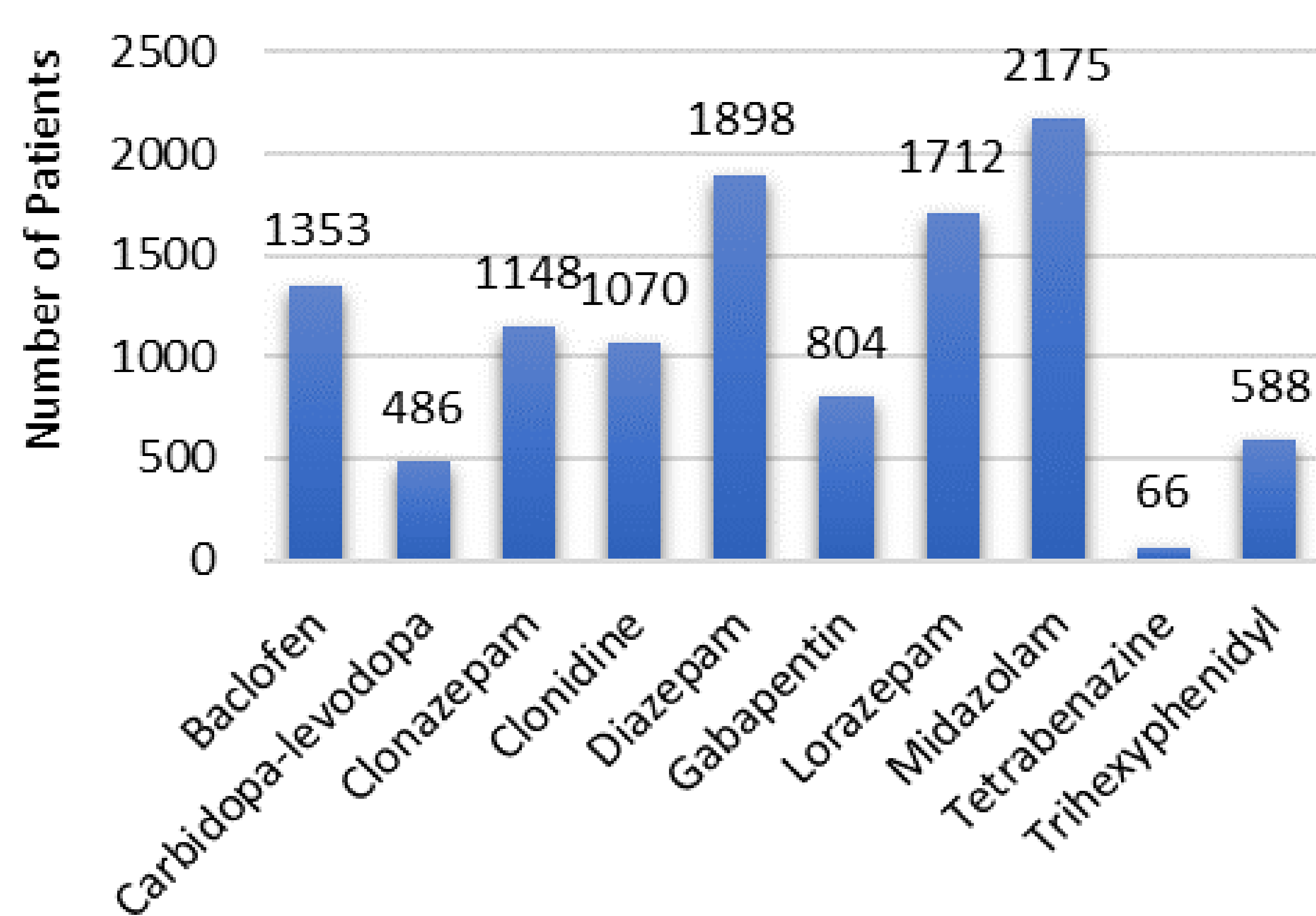


Figure 3. Mean Dosage by Weight Group

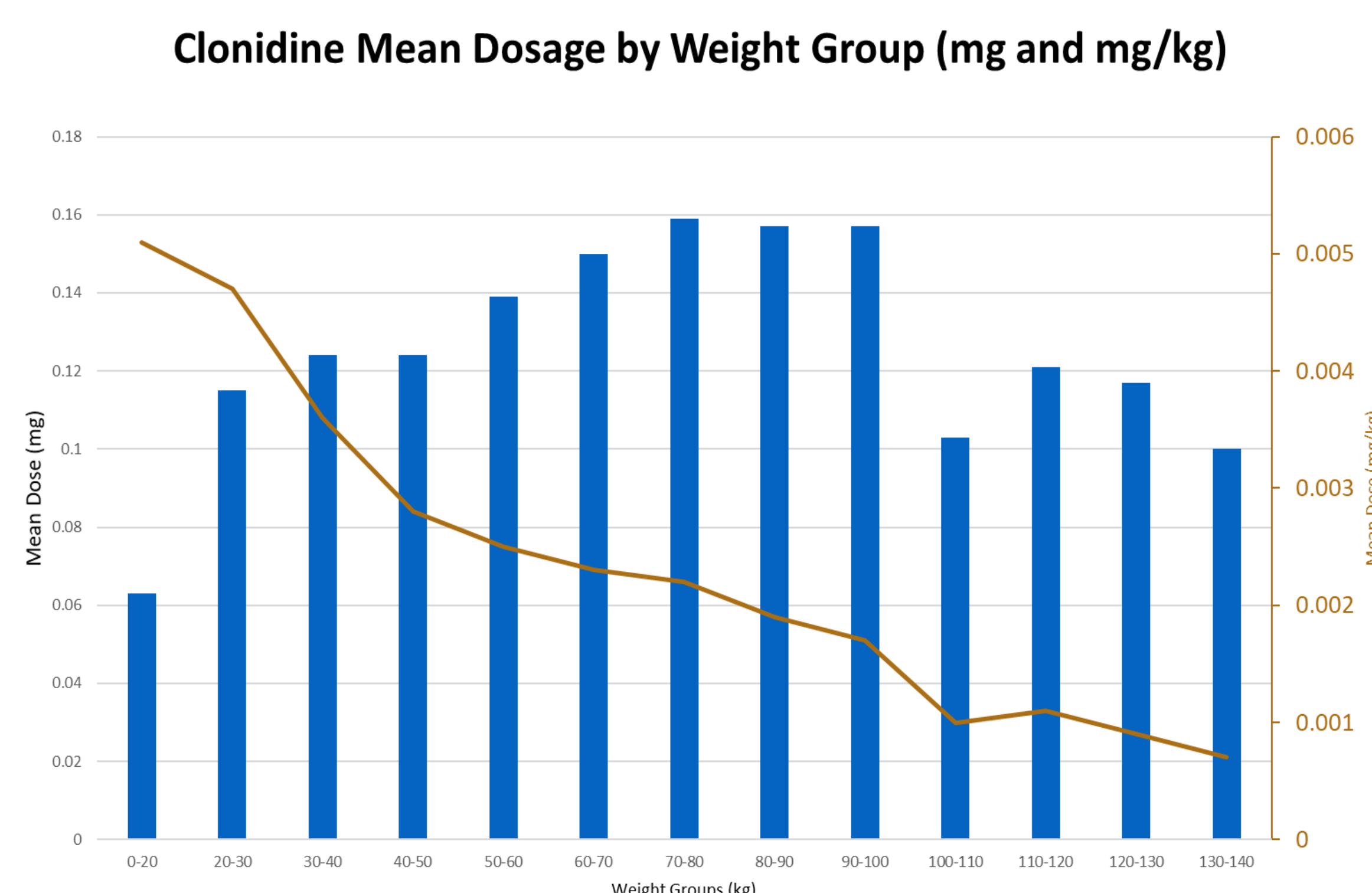
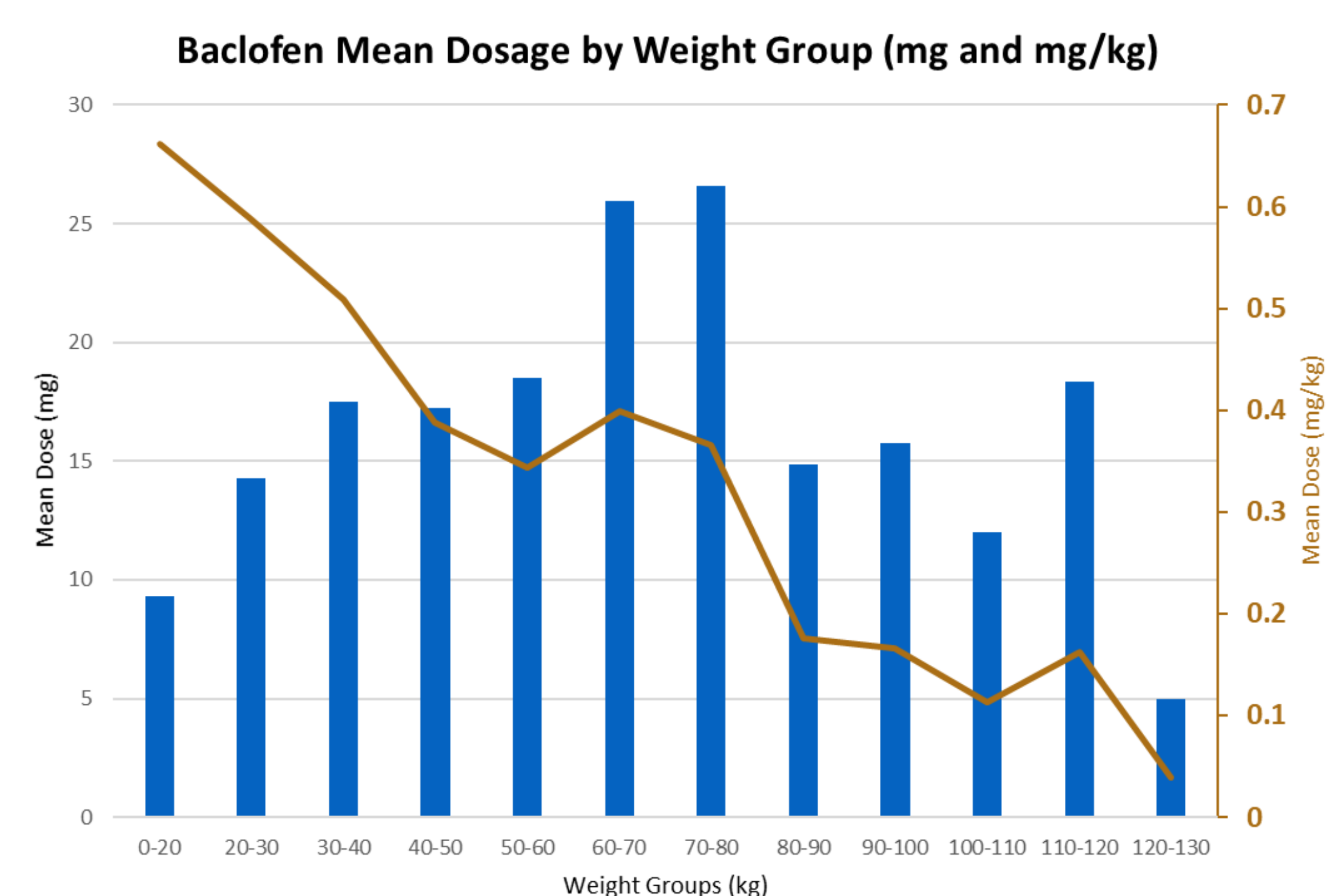


Figure 2. Impact of Cerebral Palsy and Epilepsy Diagnoses on Dystonia Medication Prescriptions

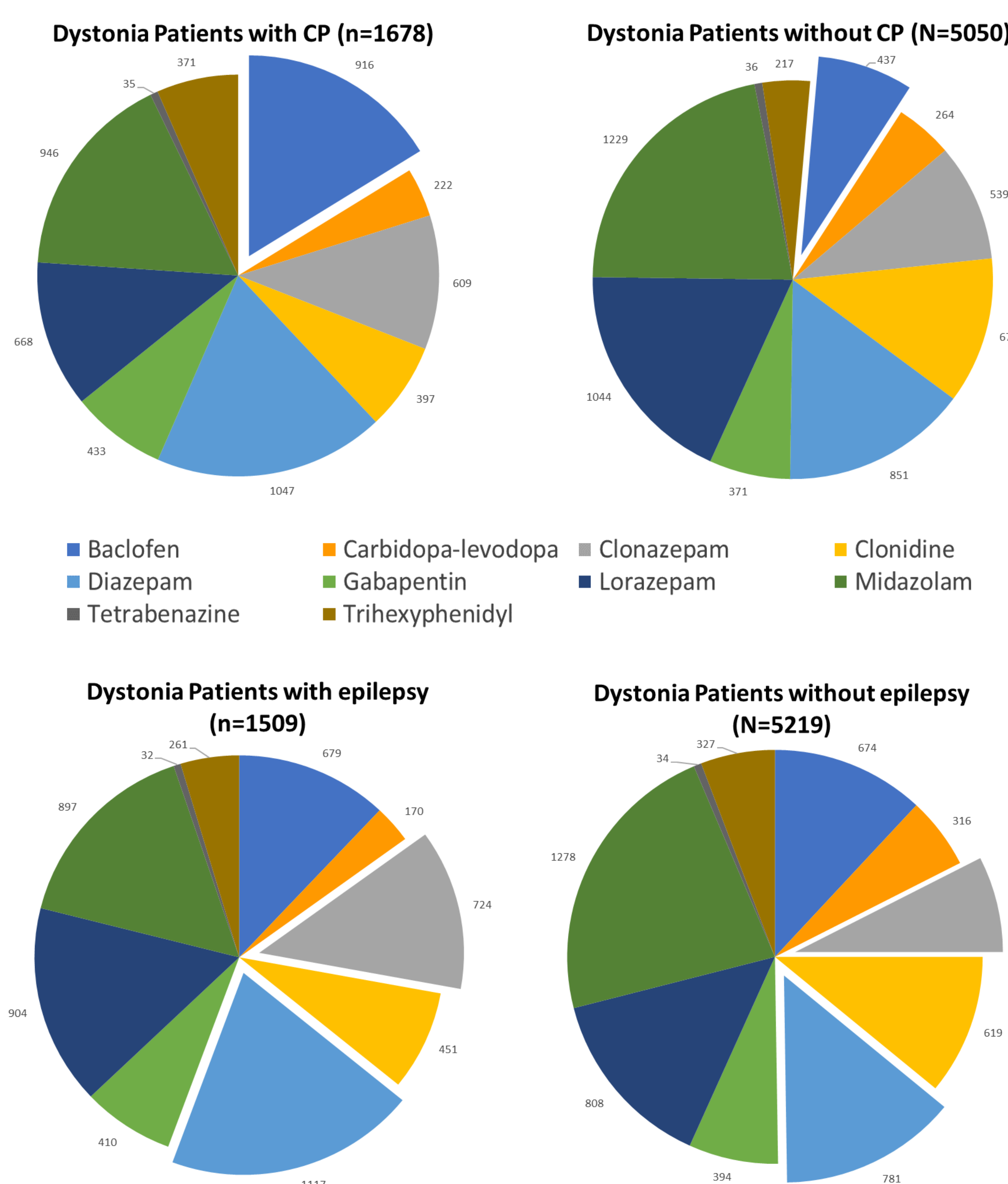


Figure 4. Mean Dosage Among All Weight Groups

Medication	Avg dose (mg)	Avg dose (mg/kg)
Baclofen	16.3 (5-26.6)	0.33 (0.039-0.662)
Carbidopa-levodopa	113.4 (50-144.4)	2.48 (0.43-5.96)
Clonazepam	0.972 (0.5-1.31)	0.02 (0.004-0.051)
Clonidine	0.125 (0.063-0.159)	0.002 (0.0007-0.051)
Diazepam	6.37 (3.5-11.4)	0.12 (0.025-0.323)
Gabapentin	350.9 (147.7-455.6)	6.0 (2.6-11.4)
Lorazepam	1.66 (0.5-2.2)	0.03 (0.004-0.093)
Midazolam	7.89 (2.0-12.3)	0.16 (0.06-0.34)
Tetrabenazine	17.04 (12.5-28.1)	0.52 (0.14-1.6)
Trihexyphenidyl	3.8 (2.0-5.1)	0.09 (0.021-0.182)

Discussion

- Benzodiazepines were the most prescribed medication class for dystonia. Baclofen was the second most prescribed overall (12% of prescriptions), followed by clonidine (9.5%) and gabapentin (7%). This result is likely affected by high frequency of short-term benzodiazepine prescriptions.
- Dystonia patients with cerebral palsy were prescribed baclofen more than clonidine (16.2% vs 7% of prescriptions, respectively), while patients without cerebral palsy were prescribed clonidine more frequently than baclofen (11.9% vs 7.7% of prescriptions). The same pattern was seen in dystonia patients with and without spasticity.
- Dystonia patients with epilepsy received a higher number of prescriptions for benzodiazepines, such as diazepam (19.8% of prescriptions for dystonia patients with epilepsy vs 13.8% for dystonia patients without epilepsy).
- As demonstrated in Figure 3, patients in higher weight groups received smaller weight-adjusted dosages for each medication. A similar pattern was present amongst all medications in the study.

Conclusion

- Prescribing practices for dystonia in the United States are quite variable.
- Further guidelines are needed regarding dystonia medication selection and dosing to optimize patient care and to inform dosing recommendations for future clinical trials.

