



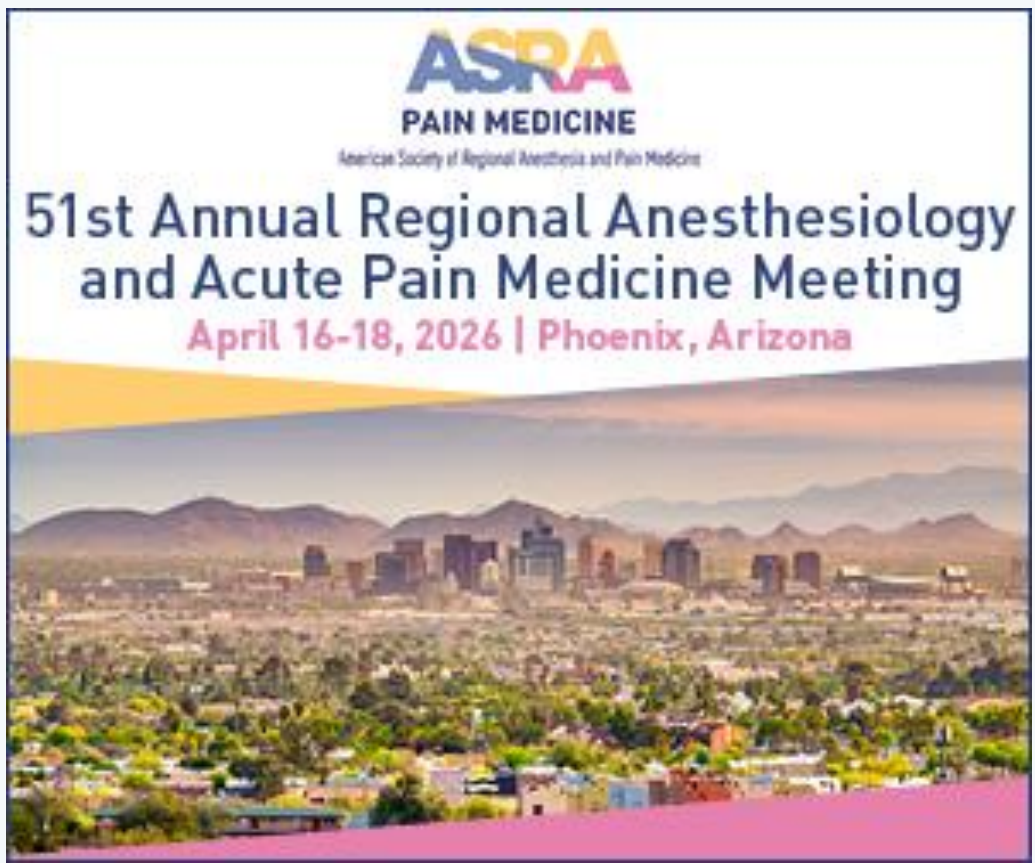
Prescribing Patterns of Prescription Cannabidiol from 2018 to 2022: A Database Study (Abstract# 2315935)

William Chan, MEng¹, Alex Illescas, MPH¹, Jashvant Poeran, MD, PhD¹, Stavros Memtsoudis, MD, PhD, MBA^{1,2}, Alexandra Sideris, PhD^{1,2}

¹ Pain Prevention Research Center, Department of Anesthesiology, Critical Care & Pain Management, Hospital for Special Surgery, New York, NY, USA; ² Department of Anesthesiology, Weill Cornell Medicine, New York, NY, USA
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INTRODUCTION

- The first and only FDA-approved purified cannabidiol (CBD) oral solution is indicated for the treatment of seizures associated with Lennox-Gastaut syndrome, Dravet syndrome, or tuberous sclerosis complex¹.
- Given the rise in cannabis/cannabinoid use in the United States, patients may be using prior to surgery.
- Limited data currently exists regarding the utilization of prescription CBD in the general population with potential implications in the perioperative setting^{2,3}.

METHODS

- After Institutional Review Board approval (IRB#2017-0169), a commercial dataset (Truven MarketScan database) was queried to identify patients with a prescription CBD (Epidiolex[®]) prescription during a five-year study period starting from FDA-approval in 2018 to 2022.
- Data capture included yearly number of scripts and patients, patient characteristics, and insurance type.
- The total number of patients with at least one of three ICD codes (Q85.1x: tuberous sclerosis, G40.81x: Dravet syndrome, G40.83x: Lennox-Gastaut syndrome) within 90 days preceding the first script was calculated representing patients with on-label prescriptions.
- Of the patients without one of these three diagnoses potentially indicating off-label use, diagnoses within 90 days preceding their first script were grouped according to the Clinical Classifications Software (CCS).
- Patients may be counted more than once towards any category due to having more than one visit and/or diagnoses which fall in the same category.
- All data were summarized using descriptive statistics.

Annual Epidiolex[®] scripts increased from 2018 to 2022 and most appear to be off-label

Table 1. Total prescription cannabidiol scripts and total patients by year from 2018 to 2022

YEAR	TOTAL SCRIPTS (N=35610)		TOTAL PATIENTS (N=4481)*		TOTAL UNIQUE PATIENTS ON FIRST SCRIPT (N=2404)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
2018	171	0.48	136	3.04	136	5.66
2019	7958	22.35	1204	26.87	1092	45.42
2020	8512	23.9	1000	22.32	399	16.6
2021	9311	26.15	1062	23.7	403	16.76
2022	9658	27.12	1079	24.08	374	15.56

*A patient counted toward one year may also be counted toward another year

Table 2. Patient and insurance characteristics of N=2404 total unique patients with a prescription cannabidiol script from 2018 to 2022

SEX	Frequency	Percent
Male	1289	53.62
Female	1115	46.38
UNITED STATES REGION	Frequency	Percent
Northeast	503	20.92
North Central	497	20.67
South	1028	42.76
West	365	15.18
Unknown	11	0.46
INSURANCE PLAN TYPE	Frequency	Percent
Comprehensive	54	2.28
EPO	17	0.72
HMO	281	11.87
Other	10	0.42
POS	273	11.53
PPO	1160	48.99
CDHP	255	10.77
HDHP	318	13.43
Frequency Missing = 36		
NETWORK PAID	Frequency	Percent
No	78	3.75
Yes	2001	96.25
Frequency Missing = 325		

Table 3. Top 10 Clinical Classifications Software (CCS) ICD groups of patients without a Lennox-Gastaut syndrome, Dravet syndrome, or tuberous sclerosis diagnosis code within 90 days prior to the first script

Clinical Classifications Software (CCS) ICD Groups**	Frequency	Percent
EPILEPSY; CONVULSIONS [83.]	2921	19.55
N/A*	1054	7.06
FACTORS INFLUENCING HEALTH CARE	951	6.37
OTHER NUTRITIONAL; ENDOCRINE; AND METABOLIC DISORDERS [58.]	656	4.39
OTHER GASTROINTESTINAL DISORDERS [155.]	581	3.89
DEVELOPMENTAL DISORDERS [654]	562	3.76
OTHER NERVOUS SYSTEM DISORDERS [95.]	561	3.76
PARALYSIS [82.]	427	2.86
DISEASES OF THE URINARY SYSTEM	388	2.6
RESPIRATORY INFECTIONS	386	2.58

*N/A includes various ICD code descriptions including obstructive sleep apnea, other specified health status, genetic susceptibility to other diseases, other general symptoms and signs, contact with and (suspected) exposure to COVID-19, etc.

**A patient counted toward one CCS ICD Group may also be counted toward another CCS ICD Group

CDHP, Consumer-Directed Health Plan; EPO, Exclusive Provider Organization; HDHP, High-Deductible Health Plan; HMO, Health Maintenance Organization; POS, Point of Service; PPO, Preferred Provider Organization

References



RESULTS

- Overall from 2018 to 2022, there were 35610 total prescription CBD scripts and 2404 total unique patients. (**Table 1**)
- Total scripts increased each consecutive year with a maximum of 9658 filled in 2022. The maximum total unique patients (n=1204) and maximum total unique patients who received their first script (n=1092) occurred in 2019.
- Approximately 50% (n=1213) of the total unique patients had 10 or fewer scripts.
- A slight majority of the patients were male (n=1289, 53.62%) and the most common United States region was South (**Table 2**).
- The most common insurance plan type was a Preferred Provider Organization (PPO) plan (n=1160, 48.99%) with network coverage for the vast majority of patients (n=2001, 96.25%).
- Of the 2404 total unique patients, 789 (32.82%) were found to have at least one of three ICD codes (Q85.1, G40.81x, G40.83x) within 90 days prior to the first script. Of the diagnoses within 90-days of the first script for the remaining 1615 patients, the most frequent were epilepsy or convulsions (2921 diagnoses represented by 1203 patients), factors influencing health care (951 diagnoses), other nutritional, endocrine, and metabolic disorders (656 diagnoses), other gastrointestinal disorders (581 diagnoses), or developmental disorders (562 diagnoses) (**Table 3**).
- Annual total number of CBD scripts increased throughout the study period with at least 1000 unique patients each year from 2019 to 2022.
- Most patients appear to be prescribed off-label as no diagnosis of tuberous sclerosis, Dravet syndrome, or Lennox-Gastaut syndrome was found.
- Perioperative considerations of CBD use include avoiding abrupt discontinuation in epileptic patients and potential drug-drug interactions with CYP3A4 and CYP2C19 inhibitors or inducers which may lead to adverse effects or drug inefficiency.