

Cannabinoid Exposure in Infants and Young Children

Thomas Klosowski, PharmD Candidate, SIUE School of Pharmacy

Theresa Matoushek, PharmD, CSPI, Missouri Poison Center

Introduction

- Cannabinoids are agents that act as agonists to endocannabinoid receptors and have a variety of therapeutic and recreational applications.
- Legalization in other states has led to increased unintentional exposures in pediatric patients.
- Despite its rise in prevalence, data in this population is scarce.

Objective:

- Analyze the prevalence, methods, and outcomes associated with single-substance cannabinoid exposures in neonates, infants, and young children that were reported to a poison center in the past 10 years to assist future outreach efforts.

Methods

The National Poison Center Data System was searched for single-substance bupropion exposures that were reported to the Missouri Poison Center between January 1, 2012, and December 31, 2021 in patients 0 to 5 years old.

Inclusion Criteria:

- Confirmed exposure
- Single substance cannabinoid exposure

Results

- 341 cases met search criteria; 1 case was excluded due to confirmed non-exposure.
- Patient population is 51.8% male (176) with a median age of 2 years old (1-3).
- 97.6% of cases were unintentional (332).
- 87.9% of cases were caused by ingestion (299).

Results

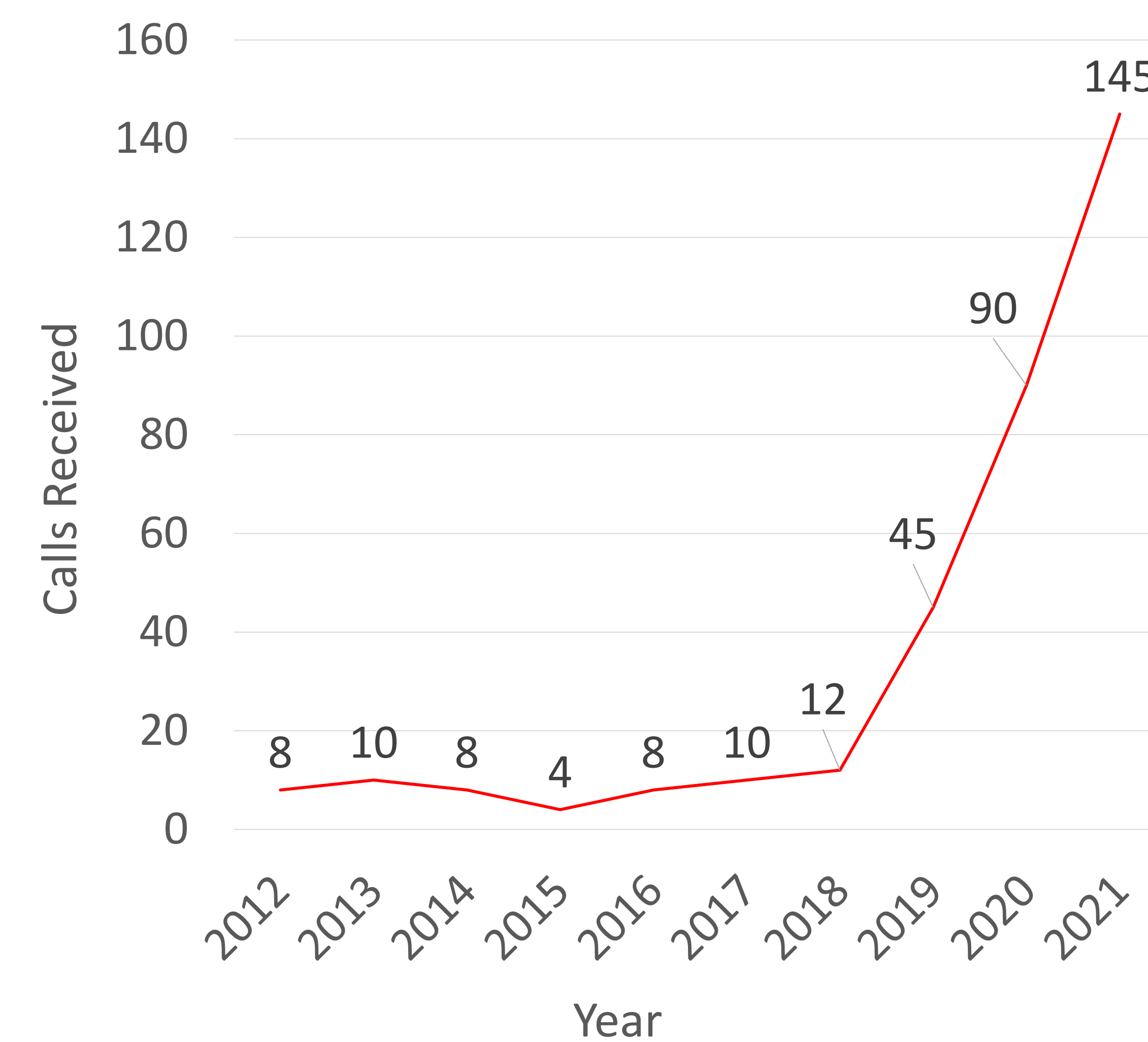


Figure 1: Frequency of calls received by the Poison Center for single-substance cannabinoid exposure per year (n = 340)

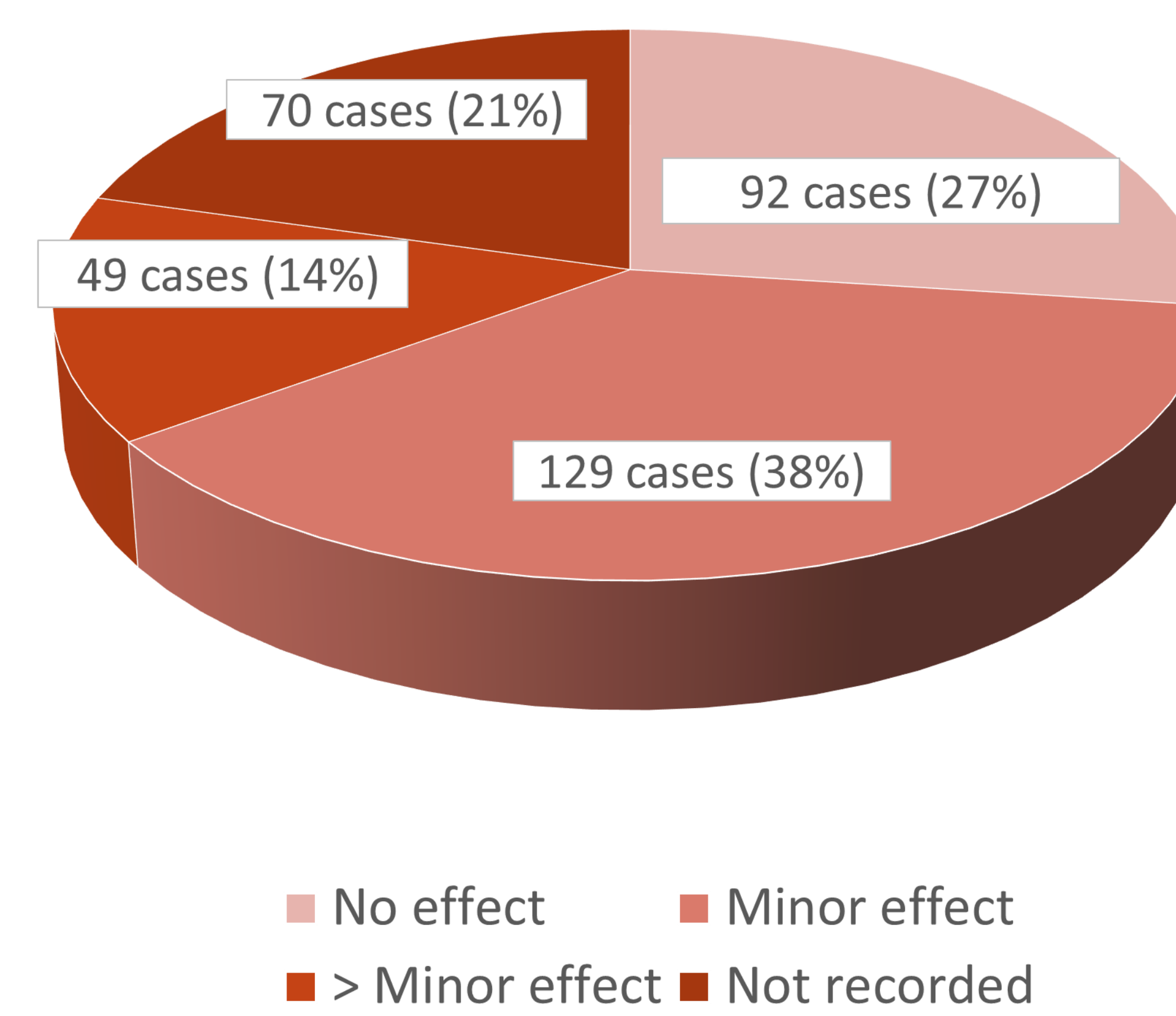


Figure 3: Proportion of cases reviewed that resulted in each clinical outcome (n = 340)

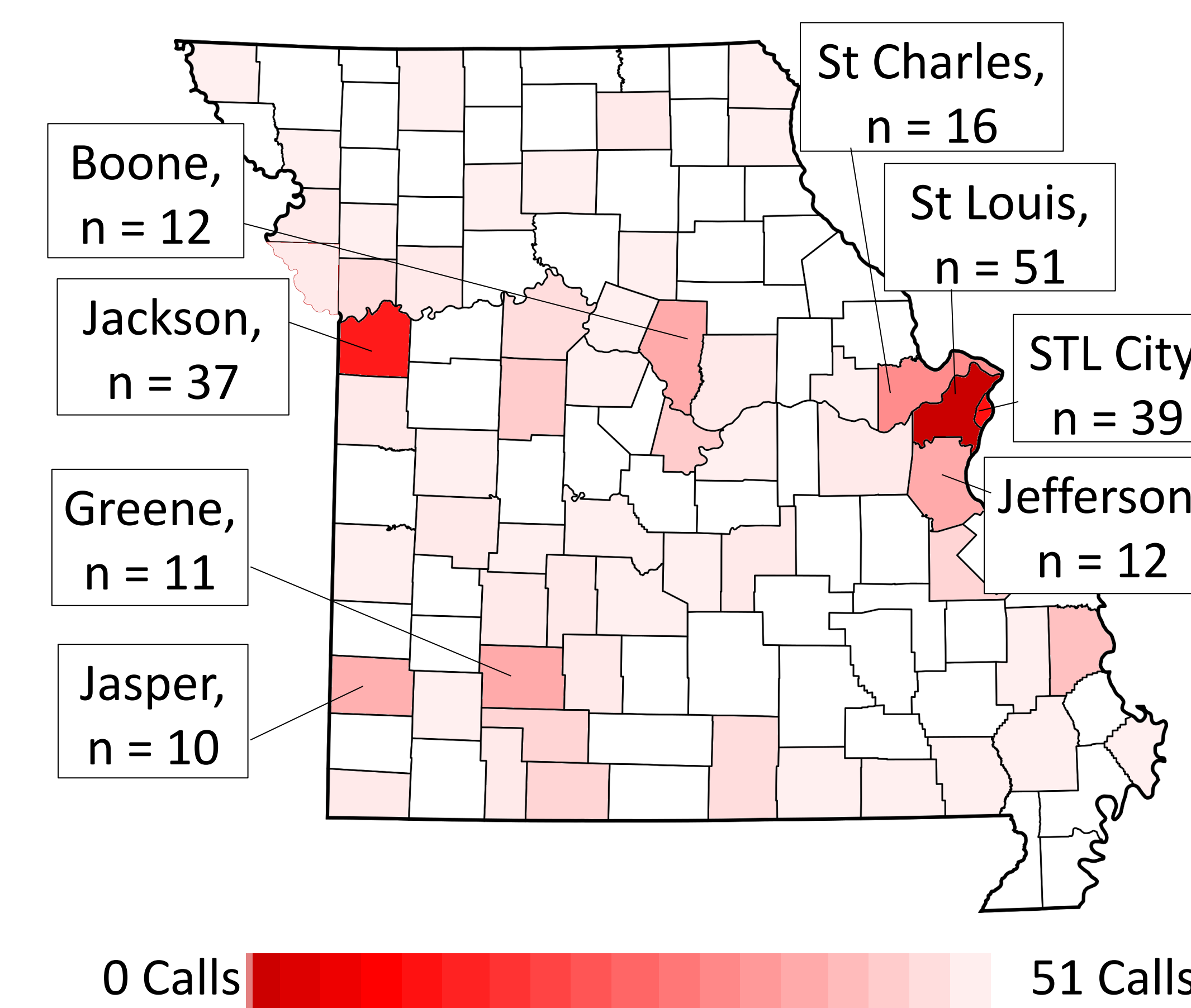


Figure 2: Number of calls made to the Poison Center per MO county (n = 280)

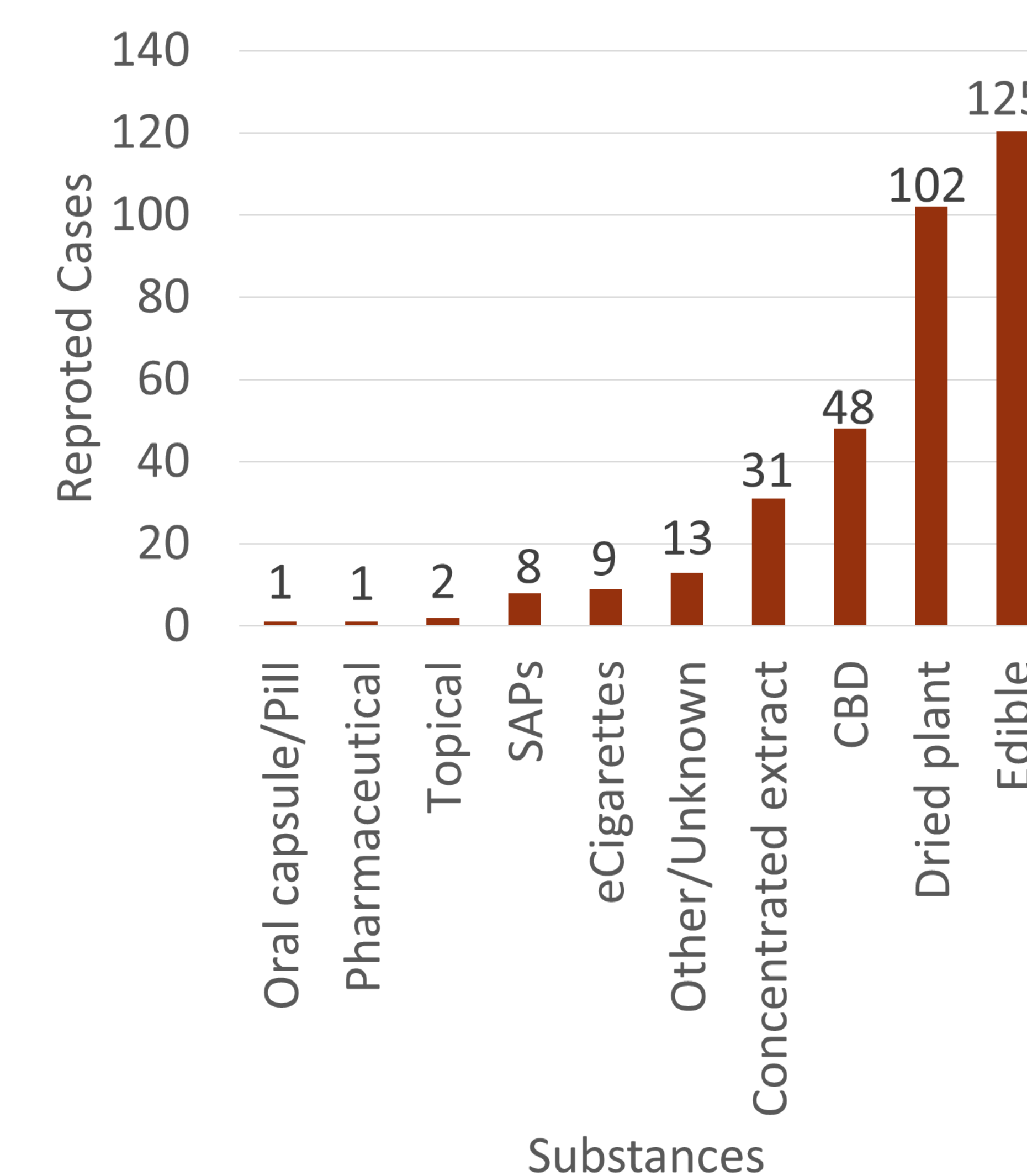


Figure 4: Frequency of reported substances involved in single-substance cannabinoid exposures (n = 340)

Clinical Effect	All Outcomes (n=340)	> Minor Effect (n=49)
CNS depression (mild)	101 (29.7%)	11 (22.4%)
CNS depression (mod)	37 (10.9%)	31 (63.3%)
Other - neurologic	24 (7.1%)	7 (14.3%)
Ataxia	21 (6.2%)	5 (10.2%)
Drowsiness/ Lethargy	20 (5.9%)	3 (6.1%)
Tachycardia	20 (5.9%)	9 (18.4%)
Vomiting	18 (5.3%)	4 (8.2%)
Agitation	11 (3.2%)	5 (10.2%)
Respiratory depression	8 (2.4%)	7 (14.3%)
Mydriasis	7 (2.1%)	6 (12.2%)

Table 1: Comparison of clinical effects related to exposure between study population and a subgroup of severe clinical outcomes

Limitations

- 2022 data is not included in this analysis
- Limited sample size in subgroup analysis
- County prevalence analysis subject to density bias
- No definite hypothesis testing
- Poison Center data collection preformed in a realistic practice environment

Conclusion

- Data collected shows need for future education efforts as well as ways to implement these efforts
- Changing culture regarding cannabinoid use will affect all pharmacists, meaning continuing our own educations will prove vital in these upcoming years