Michigan Poison & Drug Information Center (MiPDC) Synthetic and Minor Cannabinoid-Related Cases, 2020-2024.

Background

With the legalization of recreational cannabis use in Michigan in 2018 and increasing availability of both natural and synthetically derived cannabinoids,[1] there are questions regarding cannabinoid use and related harms, particularly among youth. Synthetic cannabinoids are known to be more potent/dangerous than natural cannabis, leading to potentially worse adverse effects.[2,3] Natural and synthetic cannabinoid exposure among youth may lead to both short-term and long-term neurological concerns, such as difficulty concentrating and remembering, reduced coordination and increased risk of mental health issues and addiction.[4,5] Additionally, synthetic cannabinoid exposure may be associated with more serious physical and psychoactive effects, including seizures, myocardial infarction, aggression, anxiety/panic and psychosis.[5]

Derived psychoactive cannabis products (DPCP), which refer to products that contain components of naturally occurring cannabinoids that have been chemically derived, represent an emerging concern to the public.[6] These products, hereafter referred to as "minor" cannabinoids, exist in a "legal loophole" due to the 2018 Federal Agriculture Improvement Act which defined hemp as cannabis products with <= 0.3% delta-9 THC.[7] These products include delta-8 THC, delta-10 THC, hexahydrocannabinol (HHC), tetrahydrocannabinol-O-acetate (THC-O), tetrahydrocannabiphorol (THCP) and tetrahydrocannabivarin (THCV). Little research is available on the consequences of DPCP use. These products are not federally regulated or evaluated by the Food and Drug Administration.[8]

Methodology

Michigan Poison and Drug Information Center (MiPDC) data were reviewed from January 2020 through December 2024. MiPDC is a nationally accredited poison center with America's Poison Centers (APC) that is housed within the Emergency Medicine Department at Wayne State University. MiPDC provides over-the-phone guidance for the public, emergency responders and health care professionals across the state as well as around-the-clock on-call consultations by board-certified toxicologists.[9] Information collected from each call is entered into a data management system that adheres to the National Poison Data System (NPDS) coding guidelines.[10] Collected variables include basic demographic characteristics including age and sex, the specific substances involved in each case, the clinical effects or symptoms experienced by the individual, as well as the medical outcome of the case categorized by severity.

The data are from cases generated by either an exposed individual or a medical practitioner calling into the center. Limitations to these data include the self-reported nature of the cases and that some cases are lost to follow-up.

All cases that listed a "synthetic cannabinoid" or a "minor cannabinoid" as a substance were included in this analysis. Synthetic and minor cannabinoids are generic substance categories provided by the NPDS data reporting standard. Prior to 2023, a generic substance category for "minor cannabinoids" did not exist. In these cases, a keyword search, generated from the specific product names identified in the

"minor cannabinoid" generic category in years 2023 and 2024, was used to identify cases.* Synthetic cannabinoids include "spice", "k2" and other synthetically manufactured cannabinoids. "Minor cannabinoids" are DPCP products including delta-8 THC, delta-10 THC, HHC and THC-O. A full list of specific product names is included in Tables A1 and A2 in the appendix. Because multiple substances can contribute to a case, Table A3 reports the distribution of number of substances involved in each exposure.

Frequencies of exposures are reported by year and age group, stratifying age by people 18 years and older and under 18. For the purposes of this report, minor is defined as ages 0-17 years and adult is defined as ages 18 and older. The most common clinical effects and medical outcomes related to the substance exposure are examined.

Results and Discussion

Figure 1. *The Number of Synthetic and Minor Cannabinoid-Related MiPDC Cases by Year and Age Group, 2020-2024.*

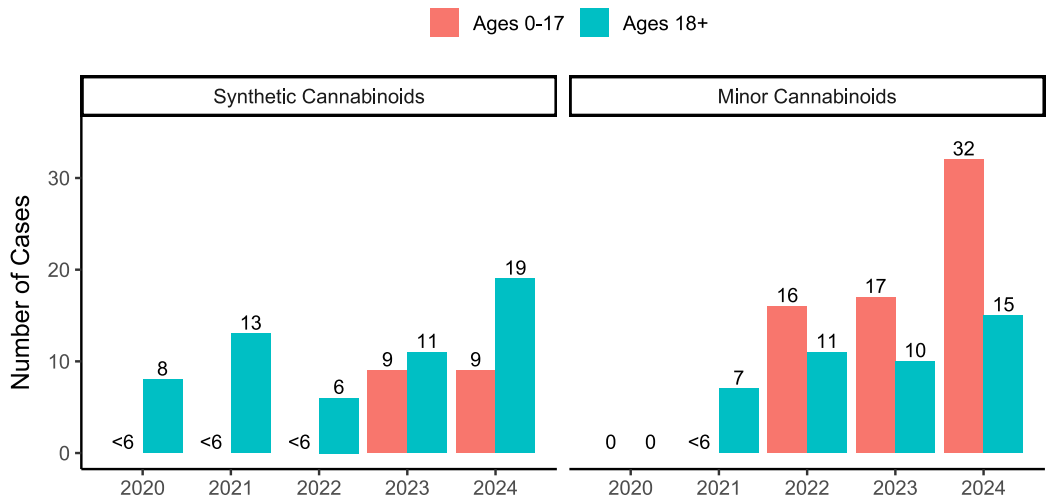

Table 1. *The Number of Synthetic and Minor Cannabinoid-Related MiPDC Cases by Year and Age Group, 2020-2024.*

	Synthetic Cannabinoids		Minor Cannabinoids	
Year	**Ages 0-17**	**Ages 18+**	**Ages 0-17**	**Ages 18+**
2020	<6	8 (14%)	0 (0%)	0 (0%)
2021	5 (19%)	13 (23%)	<6	7 (16%)
2022	<6	6 (11%)	16 (24%)	11 (26%)
2023	9 (35%)	11 (19%)	17 (26%)	10 (23%)
2024	9 (35%)	19 (33%)	32 (48%)	15 (35%)
Total	26	57	*	43

Counts less than 6 are suppressed.
**Denotes count removed to prevent back calculation of a suppressed count.*

Keywords included to identify minor cannabinoid-related cases: "Minor Cannabinoids", "Delta 8", "Delta 10", "THC-O", "Delta-8", "Delta-10", "Hexahydrocannabinol", "HHC", "THCP", "THCV", "THCO", "THC-V", "THC-P", "THCA", "THCB", "Hydroxyhexahydrocannabinol", "CBDV", "THC-A", "THC-B."

While the number of cases related to synthetic cannabinoids is low overall, there was a 138% increase among adults and 800% among minors from 2020 to 2024 (Table 1). Among minors, 18 out of 26 (70%) cases occurred in 2023 and 2024.

Minor cannabinoid-related cases among minors increased from zero cases in 2020 to 32 cases in 2024 (Table 1).

Figure 2. *The Age Distribution of Synthetic and Minor Cannabinoid-Related MiPDC Cases Among Individuals Ages 0-17, 2020-2024.*

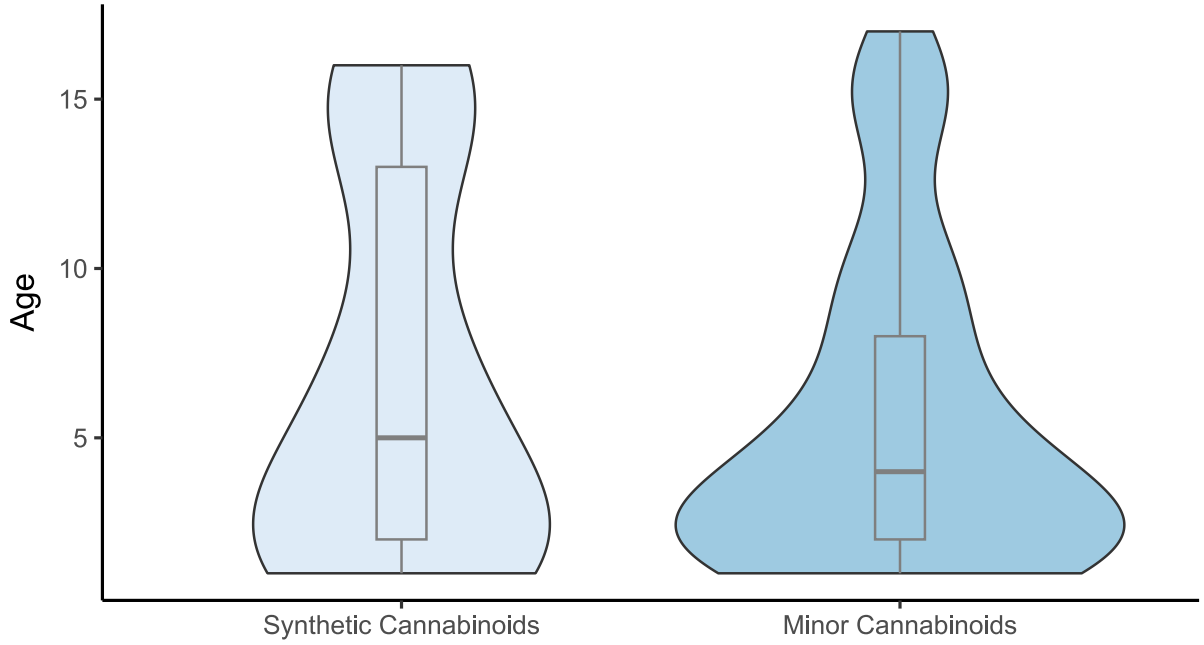

Table 2. *The Demographic Detail of Synthetic and Minor Cannabinoid-Related MiPDC Cases by Sex and Age, 2020-2024.*

	Synthetic Cannabinoids			Minor Cannabinoids		
Demographic Group	**Ages 0-17**	**Ages 18+**	**Subtotal**	**Ages 0-17**	**Ages 18+**	**Subtotal**
Female	15 (58%)[a]	13 (23%)	28 (34%)	32 (48%)	23 (53%)	55 (50%)
Male	11 (42%)	44 (77%)	55 (66%)	34 (52%)	20 (47%)	54 (50%)
Age	5 (2, 14)[b]	33 (25, 41)	25 (14, 37)	4 (2, 8)	32 (26, 52)	10 (3, 30)
Total[c]	26	57	83	66	43	109

[a] *N (%).*

[b] *Median (Q1, Q3).*

[c] *1.2% of Synthetic Cannabinoid-related cases and 4.6% of Minor Cannabinoid-related cases contained missing values for a specific age. In these cases, an age range was provided to estimate the individual's age (ex. 20+).*

Most synthetic cannabinoid-related cases among adults were male with 44 out of 57 (77%) being identified as male (Table 2). The median age of cannabinoid-related cases among minors skewed young with a median of 5 years old for synthetic cannabinoid-related cases and 4 years old for minor cannabinoid-related cases. The third quartile of age among minors included in minor cannabinoid-

related cases was 8 indicating that cases in this category skewed younger than that of synthetic cannabinoids (Figure 2).

Table 3. *The 15 Most Common Clinical Effects Related to Synthetic Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

Clinical Effect	Ages 0-17	Ages 18+	Total
CNS Depression (Mild)	8 (20%)	7 (4.2%)	15 (7.2%)
CNS Depression (Moderate)	6 (15%)	9 (5.4%)	15 (7.2%)
Tachycardia	<6	13 (7.8%)	*
Confusion	<6	8 (4.8%)	*
Agitation	<6	10 (6.0%)	*
Creatinine increased	<6	8 (4.8%)	*
Rhabdomyolysis	<6	6 (3.6%)	*
Hypotension	0 (0%)	7 (4.2%)	7 (3.4%)
Acidosis	0 (0%)	6 (3.6%)	6 (2.9%)
Anion gap increased	0 (0%)	6 (3.6%)	6 (2.9%)
Electrolyte abnormality	<6	<6	6 (2.9%)
Hallucinations/delusions	<6	<6	6 (2.9%)
Seizure (single)	<6	<6	6 (2.9%)
Hypertension	0 (0%)	<6	<6
Vomiting	<6	<6	<6
Total (of all effects)	41	166	207

Counts less than 6 are suppressed.

**Denotes count removed to prevent back calculation of a suppressed count.*

Cases described in Tables 3 and 4 can have more than one clinical effect listed. The most common effects among all cases included Central Nervous System Depression (mild and moderate), tachycardia, confusion and agitation (Tables 3 and 4, Figure 3). Mild CNS depression is defined as “fatigue, drowsiness, normal sleep from which the patient can be awakened with minimal stimulation, ” while Moderate CNS depression is “A state of unconsciousness in which the patient will arouse to loud verbal or painful stimuli. ”[10]

Table 4. *The 15 Most Common Clinical Effects Related to Minor Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

Clinical Effect	Ages 0-17	Ages 18+	Total
CNS Depression (Mild)	21 (27%)	7 (8.2%)	28 (17%)
Tachycardia	6 (7.6%)	10 (12%)	16 (9.8%)
CNS Depression (Moderate)	9 (11%)	<6	12 (7.3%)
Confusion	6 (7.6%)	<6	10 (6.1%)
Other - Neurological	<6	9 (11%)	10 (6.1%)
Nausea	<6	6 (7.1%)	9 (5.5%)
Vomiting	<6	<6	7 (4.3%)
Other - Respiratory	<6	<6	<6
Agitation	<6	<6	<6
CNS Depression (Major)	<6	<6	<6
Tremor	<6	<6	<6
Chest pain (incl. noncardiac)	0 (0%)	<6	<6
Electrolyte abnormality	0 (0%)	<6	<6
Nystagmus	<6	<6	<6
X-ray findings (+)	<6	<6	<6
Total (of all effects)	79	85	164

Counts less than 6 are suppressed.
**Denotes count removed to prevent back calculation of a suppressed count.*

CNS depression (mild) was listed for 21 out of 79 (27%) minor cannabinoid clinical effects among minors (Table 4). This was 19% higher than in adults, in which 7 out of 85 (8.2%) clinical effects had CNS depression (mild) listed. Among synthetic cannabinoid cases, tachycardia was the most common clinical effect observed among adults. This was observed in 13 out of 166 (7.8%) effects listed, compared to a count less than 6 out of 41 effects among minors (Table 3). CNS depression (Mild) continued to be the most common effect listed in synthetic cannabinoid exposures among minors appearing in 8 out of 41 (20%) listed effects (Table 3). Tables A4 and A5 in the appendix show the frequencies of all clinical effects.

Figure 3. Number of *Medical Outcomes of Synthetic and Minor Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

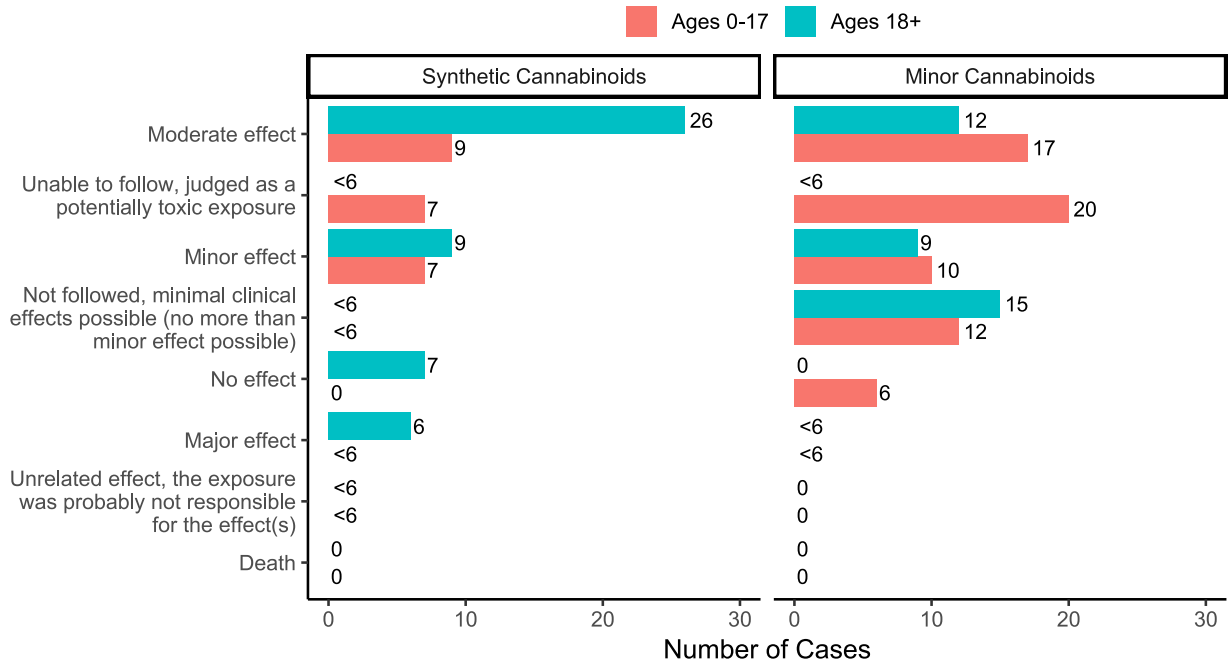

Table 5. Number of *Medical Outcomes of Synthetic and Minor Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

	Synthetic Cannabinoids			Minor Cannabinoids		
Medical Outcome	**Ages 0-17**	**Ages 18+**	**Subtotal**	**Ages 0-17**	**Ages 18+**	**Subtotal**
Moderate effect	9 (35%)	26 (46%)	35 (42%)	17 (26%)	12 (28%)	29 (27%)
Minor effect	7 (27%)	9 (16%)	16 (19%)	10 (15%)	9 (21%)	19 (17%)
Unable to follow, judged as a potentially toxic exposure	7 (27%)	<6	*	20 (30%)	<6	*
Major effect	<6	6 (11%)	*	<6	<6	<6
No effect	0 (0%)	7 (12%)	7 (8.4%)	6 (9.1%)	0 (0%)	6 (5.5%)
Unrelated effect, the exposure was probably not responsible for the effect(s)	<6	<6	<6	0 (0%)	0 (0%)	0 (0%)
Not followed, minimal clinical effects possible (no more than minor effect possible)	<6	<6	<6	12 (18%)	15 (35%)	27 (25%)
Death	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	26	57	83	66	43	109

Counts less than 6 are suppressed.
**Denotes count removed to prevent back calculation of a suppressed count.*

The most common medical outcome among synthetic cannabinoid-related cases was a moderate effect occurring in 35 out of 83 (42%) cases (Table 5). Moderate effects are defined as cases in which the individual experiences symptoms as a result of the exposure, some form of treatment is likely enacted, symptoms were not life-threatening and the individual returned to "a pre-exposure state of well-being with no residual disability or disfigurement."[10] Fewer than six cases among minors and 6 out of 57 (11%) cases had a medical outcome categorized as a major effect. Major effects are defined as cases in which the "patient has exhibited symptoms as a result of the exposure (includes complications of the exposure) which were life-threatening or resulted in significant residual disability or disfigurement."[10] No deaths were reported related to these identified exposures.

In minor cannabinoid related cases among minors, the most common medical outcome was undetermined with 20 out of 66 (29%) outcomes listed as "unable to follow, judged as a potentially toxic exposure" (Table 5). This categorization indicates that the cases were lost due to follow-up but where the exposure was significant and "may have resulted in toxic manifestations with a moderate, major or fatal outcome".[10] Among adults, the most common medical outcome was "not followed, minimal clinical effects possible (no more than minor effect possible)" which occurred in 15 out of 43 (35%) cases.

Summary

MiPDC data show an increase in the number of synthetic and minor cannabinoid-related cases over the past five years among both adults and minors. While synthetic cannabinoid-related cases have increased steadily over the entire time period considered, the rapid rise of minor cannabinoid-related cases are a recent trend with a particular impact among minors. The age distribution within minors indicate that most minor cannabinoid-related cases occurred among ages 10 and younger (median age was 4). The most common clinical effect in both synthetic and minor cannabinoid cases among minors was CNS depression (mild). Among adults, tachycardia was the most common clinical effect in cases related to synthetic cannabinoids. No known deaths related to these exposures were reported in either age group. In synthetic cannabinoid cases, moderate medical outcomes were most reported, while in minor cannabinoid cases the most common outcomes were split between moderate effects, minor effects and the case being unable to be followed and judged as a potentially toxic exposure. These data will be monitored quarterly by the Opioids and Emerging Drugs Unit with specific attention to cases among minors.

References

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Appendix

Table A1. *The Number of Unique Product Codes Included in Synthetic Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

Product Code	Ages 0-17	Ages 18+	Total
SYNTHETIC CANNABINOIDS - 7238607	15 (58%)	21 (37%)	36 (43%)
K2 - 7040415	<6	25 (44%)	27 (33%)
Spice - 7765138	<6	<6	6 (7.2%)
Not specified	<6	<6	<6
Synthetic Marijuana - 7806627	<6	<6	<6
AK-47 (THC Homolog slang term) - 7931341	<6	0 (0%)	<6
THC Homolog - 6540838	<6	0 (0%)	<6
(5-Cl) UR144 (Synthetic Cannabinoid) - 7630232	<6	0 (0%)	<6
Total	26	57	83

Counts less than 6 are suppressed.

Table A2. *The Number of Unique Product Codes Included in Minor Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

Product Code	Ages 0-17	Ages 18+	Total
THC-O Acetate edible - 8427620	12 (24%)	9 (36%)	21 (28%)
Delta 10 THC edible - 8448527	10 (20%)	6 (24%)	16 (22%)
Delta 8 THC edible - 8408993	11 (22%)	<6	*
Juicy Kush Delta-8 THC Infused Gummies - Peach Rings - 8428149	<6	0 (0%)	<6
Not specified	<6	<6	<6
Juicy Kush 1000mg THC-O Disposable Vape Pen - 8427729	<6	0 (0%)	<6
3CHI HHC Gummies Orange Dreamsicle - 8449989	0 (0%)	<6	<6
CBDV (minor cannabinoid) - 8459516	0 (0%)	<6	<6
DAMN! THC-A Gummies Blueberry Rings - 8599718	<6	0 (0%)	<6
Hydroxyhexahydrocannabinol - 8446117	<6	0 (0%)	<6

Product Code	Ages 0-17	Ages 18+	Total
Juicy Kush 1000mg Delta-8 THC Disposable Vape Pen - 8427919	0 (0%)	<6	<6
Juicy Kush Delta-8 THC Infused Gummies - Wild Cherry Rings - 8428066	<6	0 (0%)	<6
Just Delta 10 THC Gummies Peach Rings - 8449781	<6	0 (0%)	<6
Just Delta 10 THC Gummies Rainbow Belts - 8449088	<6	0 (0%)	<6
THCA (minor cannabinoid) - 8459483	0 (0%)	<6	<6
THCB (minor cannabinoid) - 8459425	<6	0 (0%)	<6
THCP (minor cannabinoid) - 8459441	0 (0%)	<6	<6
Total	49	25	74

Counts less than 6 are suppressed.

**Denotes count removed to prevent back calculation of a suppressed count.*

Nine out of 17 (53%) specific product codes were identified as a consumable edible product.

Table A3. *Number of Substances Reported Among Synthetic/Minor Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

	Synthetic Cannabinoids			Minor Cannabinoids		
Number of Substances	Ages 0-17	Ages 18+	Subtotal	Ages 0-17	Ages 18+	Subtotal
1	23 (88%)	17 (30%)	40 (48%)	61 (92%)	33 (77%)	94 (86%)
2	<6	16 (28%)	*	<6	<6	7 (6.4%)
3	<6	15 (26%)	*	0 (0%)	<6	<6
4	0 (0%)	<6	<6	0 (0%)	<6	<6
5	0 (0%)	<6	<6	0 (0%)	<6	<6
6	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
7	0 (0%)	<6	<6	<6	0 (0%)	<6
Total	26	57	83	66	43	109

Counts less than 6 are suppressed.

**Denotes count removed to prevent back calculation of a suppressed count.*

Other substances reported in synthetic cannabinoid cases among minors included: Escitalopram (Lexapro), Miscellaneous Unknown Drugs, Other Antihistamines Alone (Excluding Cough and Cold Preparations) [Periactin] and Unknown Dietary Supplements or Homeopathic Agents.

Other substances reported in minor cannabinoid cases among minors included: Beta Blockers, Calcium Antagonist, Clonidine, Naproxen, Marijuana: Edible Preparation [Edible Preparation], Methamphetamines [Methamphetamine saccharate] and Miscellaneous Unknown Drugs.

Table A4. *Number of all Clinical Effects Related to Synthetic Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

Clinical Effect	Ages 0-17	Ages 18+	Total
CNS Depression (Mild)	8 (20%)	7 (4.2%)	15 (7.2%)
CNS Depression (Moderate)	6 (15%)	9 (5.4%)	15 (7.2%)
Tachycardia	<6	13 (7.8%)	*
Confusion	<6	8 (4.8%)	*
Agitation	<6	10 (6.0%)	*
Creatinine increased	<6	8 (4.8%)	*
Rhabdomyolysis	<6	6 (3.6%)	*
Hypotension	0 (0%)	7 (4.2%)	7 (3.4%)
Acidosis	0 (0%)	6 (3.6%)	6 (2.9%)
Anion gap increased	0 (0%)	6 (3.6%)	6 (2.9%)
Electrolyte abnormality	<6	<6	6 (2.9%)
Hallucinations/delusions	<6	<6	6 (2.9%)
Seizure (single)	<6	<6	6 (2.9%)
Hypertension	0 (0%)	<6	<6
Vomiting	<6	<6	<6
AST, ALT > 100 & <= 1,000	0 (0%)	<6	<6
Bradycardia	0 (0%)	<6	<6
CNS Depression (Major)	<6	<6	<6
Dizziness/vertigo	<6	<6	<6
Mydriasis	0 (0%)	<6	<6
ECG change - QTc prolongation	0 (0%)	<6	<6
Nausea	0 (0%)	<6	<6
Other - Miscellaneous	0 (0%)	<6	<6
X-ray findings (+)	0 (0%)	<6	<6
Abdominal Pain	<6	<6	<6
Diaphoresis	0 (0%)	<6	<6
Fever/hyperthermia	0 (0%)	<6	<6
Hyperglycemia	0 (0%)	<6	<6

Clinical Effect	Ages 0-17	Ages 18+	Total
Osmolal gap increased	0 (0%)	<6	<6
Renal failure	0 (0%)	<6	<6
Respiratory depression	0 (0%)	<6	<6
Tremor	<6	<6	<6
Asystole	0 (0%)	<6	<6
Burns	<6	0 (0%)	<6
Chest pain (incl. noncardiac)	0 (0%)	<6	<6
Cough/choke	0 (0%)	<6	<6
Cyanosis	0 (0%)	<6	<6
ECG change - QRS prolongation	0 (0%)	<6	<6
EPS - dyskinesia	0 (0%)	<6	<6
Hyperventilation/tachypnea	0 (0%)	<6	<6
Hypoglycemia	0 (0%)	<6	<6
Miosis	0 (0%)	<6	<6
Myoclonus	0 (0%)	<6	<6
Ocular - Irritation/pain	<6	0 (0%)	<6
Other - Cardiovascular	0 (0%)	<6	<6
Other - Dermal	0 (0%)	<6	<6
Other - Gastrointestinal	0 (0%)	<6	<6
Other - Neurological	<6	0 (0%)	<6
Other - Ocular	<6	0 (0%)	<6
Other - Respiratory	0 (0%)	<6	<6
Pain (not dermal, GI, ocular)	<6	0 (0%)	<6
Pallor	<6	0 (0%)	<6
PT/INR prolonged	0 (0%)	<6	<6
Pulmonary edema	0 (0%)	<6	<6
Red eye/conjunctivitis	<6	0 (0%)	<6
Respiratory arrest	0 (0%)	<6	<6
Seizures (multi/discrete)	0 (0%)	<6	<6
Urinary incontinence	<6	0 (0%)	<6
Urinary retention	0 (0%)	<6	<6
Total	41	166	207

Counts less than 6 are suppressed.

**Denotes count removed to prevent back calculation of a suppressed count.*

Table A5. *Number of all Clinical Effects Related to Minor Cannabinoid MiPDC Cases by Age Group, 2020-2024.*

Clinical Effect	Ages 0-17	Ages 18+	Total
CNS Depression (Mild)	21 (27%)	7 (8.2%)	28 (17%)
Tachycardia	6 (7.6%)	10 (12%)	16 (9.8%)
CNS Depression (Moderate)	9 (11%)	<6	*
Confusion	6 (7.6%)	<6	10 (6.1%)
Other - Neurological	<6	9 (11%)	10 (6.1%)
Nausea	<6	6 (7.1%)	*
Vomiting	<6	<6	7 (4.3%)
Other - Respiratory	<6	<6	<6
Agitation	<6	<6	<6
CNS Depression (Major)	<6	<6	<6
Tremor	<6	<6	<6
Chest pain (incl. noncardiac)	0 (0%)	<6	<6
Electrolyte abnormality	0 (0%)	<6	<6
Nystagmus	<6	<6	<6
X-ray findings (+)	<6	<6	<6
Ataxia	<6	0 (0%)	<6
Bradycardia	<6	<6	<6
Cough/choke	<6	0 (0%)	<6
Diaphoresis	0 (0%)	<6	<6
Dyspnea	<6	<6	<6
Hypertension	<6	<6	<6
Hypothermia	<6	<6	<6
Mydriasis	<6	0 (0%)	<6
Myoclonus	<6	<6	<6
Other - Dermal	<6	<6	<6

Clinical Effect	Ages 0-17	Ages 18+	Total
Red eye/conjunctivitis	<6	0 (0%)	<6
Respiratory depression	<6	0 (0%)	<6
Slurred speech	0 (0%)	<6	<6
Asystole	<6	0 (0%)	<6
Blood per rectum (other)	0 (0%)	<6	<6
Dizziness/vertigo	0 (0%)	<6	<6
Dysrhythmia (other/N.O.S.)	<6	0 (0%)	<6
ECG change - QTc prolongation	0 (0%)	<6	<6
EPS - akathisia	0 (0%)	<6	<6
Fever/hyperthermia	0 (0%)	<6	<6
Headache	0 (0%)	<6	<6
Hyperglycemia	0 (0%)	<6	<6
Miosis	0 (0%)	<6	<6
Muscle rigidity	<6	0 (0%)	<6
Numbness	0 (0%)	<6	<6
Oropharyngeal edema	0 (0%)	<6	<6
Other - Gastrointestinal	0 (0%)	<6	<6
Other - Miscellaneous	<6	0 (0%)	<6
Other - Ocular	0 (0%)	<6	<6
Paranoia	0 (0%)	<6	<6
Total	79	85	164

Counts less than 6 are suppressed.

**Denotes count removed to prevent back calculation of a suppressed count.*

Table A6. *The Number of Synthetic/Minor Cannabinoid-Related MiPDC Cases by County and Age Group, 2020-2024.*

	Synthetic Cannabinoids			Minor Cannabinoids		
County	**Ages 0-17**	**Ages 18+**	**Subtotal**	**Ages 0-17**	**Ages 18+**	**Subtotal**
Wayne	6 (23%)	6 (11%)	12 (15%)	22 (34%)	16 (38%)	38 (36%)
Macomb	<6	8 (14%)	*	<6	<6	6 (5.6%)
Oakland	<6	<6	9 (11%)	9 (14%)	<6	*
Washtenaw	<6	<6	8 (9.8%)	<6	<6	<6
Kent	<6	<6	6 (7.3%)	<6	<6	<6
Ingham	<6	<6	<6	<6	<6	7 (6.5%)
Lapeer	0 (0%)	<6	<6	<6	<6	<6
Jackson	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
Kalamazoo	<6	<6	<6	<6	0 (0%)	<6
Ottawa	<6	<6	<6	0 (0%)	<6	<6
Calhoun	0 (0%)	<6	<6	0 (0%)	<6	<6
Crawford	<6	<6	<6	<6	0 (0%)	<6
Genesee	0 (0%)	<6	<6	<6	<6	<6
Livingston	0 (0%)	<6	<6	<6	0 (0%)	<6
Muskegon	0 (0%)	<6	<6	0 (0%)	<6	<6
Baraga	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
Berrien	0 (0%)	<6	<6	<6	<6	<6
Delta	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
Ionia	0 (0%)	<6	<6	<6	0 (0%)	<6
Isabella	<6	0 (0%)	<6	0 (0%)	0 (0%)	0 (0%)
Lenawee	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
Marquette	0 (0%)	<6	<6	<6	0 (0%)	<6
Montcalm	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
Ogemaw	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)

	Synthetic Cannabinoids			Minor Cannabinoids		
County	**Ages 0-17**	**Ages 18+**	**Subtotal**	**Ages 0-17**	**Ages 18+**	**Subtotal**
Saginaw	0 (0%)	<6	<6	0 (0%)	0 (0%)	0 (0%)
Saint Clair	<6	0 (0%)	<6	0 (0%)	<6	<6
Branch	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Sanilac	0 (0%)	0 (0%)	0 (0%)	<6	<6	<6
Alpena	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Benzie	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Cheboygan	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Grand Traverse	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Gratiot	0 (0%)	0 (0%)	0 (0%)	0 (0%)	<6	<6
Huron	0 (0%)	0 (0%)	0 (0%)	0 (0%)	<6	<6
Mecosta	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Otsego	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Van Buren	0 (0%)	0 (0%)	0 (0%)	<6	0 (0%)	<6
Missing	0 (0%)	<6	<6	<6	<6	<6
Total	26	57	83	66	43	109

Counts less than 6 are suppressed.

**Denotes count removed to prevent back calculation of a suppressed count.*