

# THC Concentration in Colorado Marijuana

Healthy Kids Colorado Survey 2019 Supplemental

August 3, 2020



# Data

## Marijuana use trend

### Colorado Youth

HKCS is a biennial health survey for Colorado middle and high school students. Students are asked how many times they used marijuana in the past 30 days. High school students from 9<sup>th</sup> to 12<sup>th</sup> grade are then asked to select all the methods they used marijuana; smoke, eat, drink, vaporize, dab, or some other way. High school students then identify which method they usually used from the above methods. Method of marijuana use provides some insight on the type of marijuana product used, but does not ask about specific products or the concentration of THC present.

Table 1: HKCS method of use survey options, 2019

Survey Question	Method of Use	Associated Product Types	High THC Concentration
I did not use marijuana during the past 30 days	None	N/A	N/A
I smoked it	Smoked	Unspecified/Multiple	Unknown
I ate it (in an edible, candy, tincture or other food)	Ate	Edibles	Unknown
I used a vaporizer	Vaporized	Unspecified/Multiple	Unknown
I dabbled it	Dabbed	Oils/Concentrates	Yes
I used it in some other way	Other way	Unknown	Unknown

Produced by: Marijuana Health Monitoring Program, Colorado Department of Public Health & Environment 2020.  
Data Sources: Healthy Kids Colorado (HKCS).

The only method of use on HKCS that can provide an unbiased estimate of youth use of high concentrate THC products is dabbing (see Table 1). Methods are examined by any reported use and method usually used. Estimates are provided for both the Colorado high school population and a subset of this population formed by changing the denominator to remove those who did not use marijuana in the past 30 days. This subset of the high school population are defined as current marijuana users. See Table 2 for interpretations based on population and type of method. Population estimates are weighted and statistical significance was determined using margins of error and overlapping confidence intervals.



**Table 2: Method of use interpretations for Colorado high school students and current marijuana users in high school, HKCS**

Method Types	Colorado High School Students	Current Marijuana Users in High School
Any Method of Use	The prevalence of a method among all Colorado high school students in the past 30 days. They may or may not have used this method along with additional methods.	The prevalence of a method among a subset of high school students that used marijuana at least once in the past 30 days. They may or may not have used this method along with additional methods.
Usual Method of Use	The prevalence among Colorado high school students that usually used this method to consume marijuana in the past 30 days.	The prevalence among the subset of high school students that used marijuana at least once in the past 30 days that usually used this method to consume marijuana in the past 30 days.

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In 2019, the overall current or past 30 day marijuana use prevalence among Colorado high school students was 20.6%. High school students smoked and dabbed as methods of consuming marijuana significantly more than other methods (Table 3). Among high school students, 15.3% (95% confidence interval [CI] 14.0, 16.6) smoked and 10.2% (95% CI 9.4, 11.1) dabbed marijuana at least once in the past 30 days. Table 4 shows methods usually used among high school students and current users in high school. High school students usually used smoking as their main method for consuming (10.6% [95% CI 9.5, 11.8]), followed by dabbing (3.9% [95% CI 3.4, 4.3]). Among the current marijuana users in high school, 55.9% (95% CI 53.1, 58.7) usually smoked and 20.4% (95% CI 18.2, 22.6) usually dabbed.

**Table 3: Method of marijuana use among high school students, Colorado, HKCS 2019**

Any Method of Use	High School Students % (95% Confidence Intervals)	Current User in High School % (95% Confidence Intervals)
Smoked	15.3% (14.0, 16.6)	74.0% (72.3, 75.7)
Ingestion (Ate)	7.0% (6.4, 7.7)	33.8% (32.0, 35.6)
Vaporized	6.8% (6.1, 7.4)	32.7% (30.3, 35.0)
Dabbed	10.2% (9.4, 11.1)	49.4% (47.2, 51.7)
Other method	1.6% (1.4, 1.9)	7.9% (7.1, 8.8)

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**Table 4: Usual method of marijuana use among high school students, Colorado, HKCS 2019**

Usual Method of Use	High School Students % (95% Confidence Intervals)	Current User in High School % (95% Confidence Intervals)
Usually Smoked	10.6% (9.5, 11.8)	55.9% (53.1, 58.7)
Usually Ate	1.9% (1.6, 2.2)	9.9% (8.6, 11.2)
Usually Vaporized	2.0% (1.7, 2.3)	10.6% (9.0, 12.1)
Usually Dabbed	3.9% (3.4, 4.3)	20.4% (18.2, 22.6)
Usually Other method	0.4% (0.3, 0.5)	2.2% (1.6, 2.8)

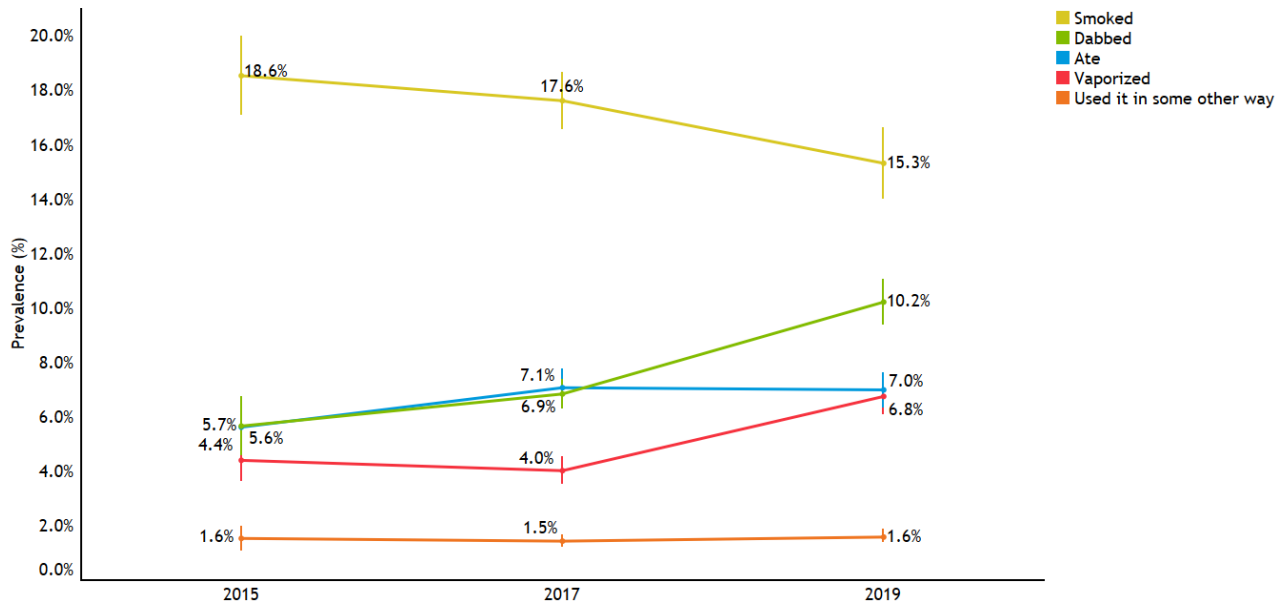
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In 2019, there were significant changes in method of marijuana use for the first time since HKCS began asking this question in 2015. While smoking marijuana remained the most frequent method of use in 2019, smoking decreased as dabbing significantly increased as the second most common method of marijuana consumption among high school students (Figure 1). Among high school students, 10.2% dabbled at least once compared to 6.9% (95% CI 6.4, 7.4) who dabbled in 2017. Furthermore, dabbing as the usually used method significantly increased from 1.4% (95% CI 1.2, 1.7) in 2017 to 3.9% in 2019 among high school students (Figure 2). Smoking as a usual method among high school students significantly decreased from 14.38% (95% CI 13.30, 15.42) to 10.64% (95% CI 9.48, 11.80).

Among other methods, there were significant increases in vaporizing marijuana. Any use of vaporizing marijuana among high school students increased from 4.0% (95% CI 3.5, 4.6) in 2017 to 6.8% (95% CI 6.1, 7.4) in 2019. Vaporizing marijuana as a usually used method among high school students increased from 0.7% (95% CI 0.6, 0.9) in 2017 to 2.0% (95% CI 1.7, 2.3) in 2019. The prevalence of eating and other methods of marijuana use remained the same in 2019 as prior years.

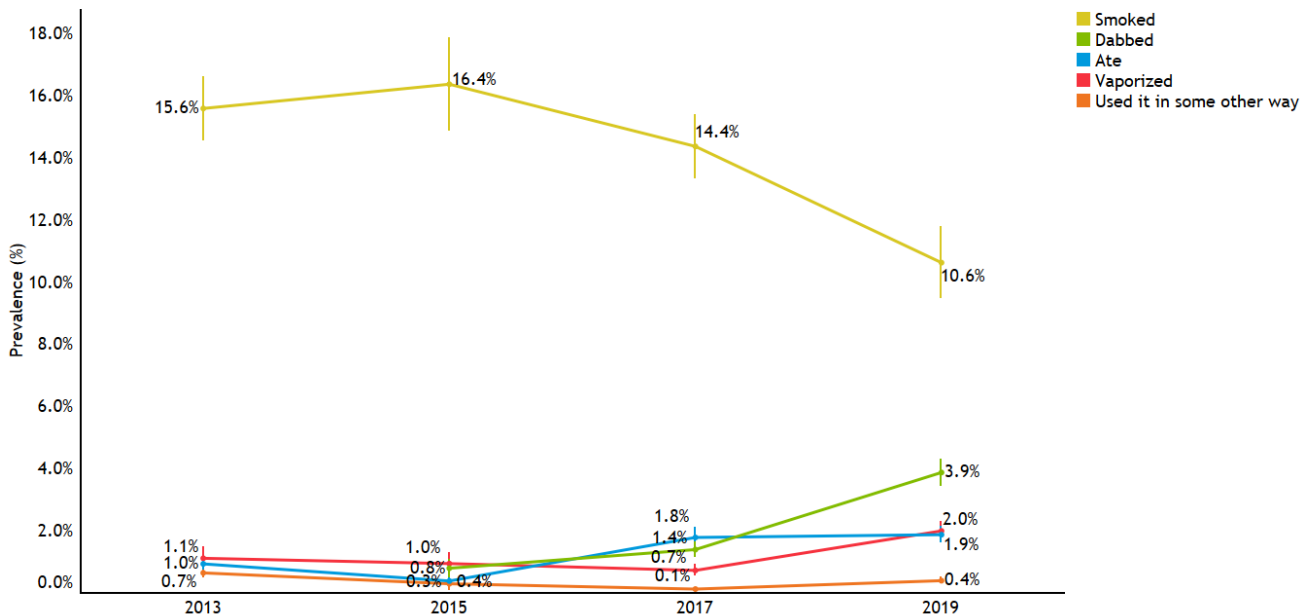


Figure 1: Method of marijuana use among Colorado high school students, HKCS 2015-2019



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 \*Bars indicate margins of error (95% Confidence Intervals)

Figure 2: Usual method of marijuana use among high school students, Colorado, HKCS 2013-2019



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 \*Bars indicate margins of error (95% Confidence Intervals)



# Conclusions

For Colorado high school students, there have been recent changes in methods of marijuana consumption. Comparing method of use between HKCS survey years 2017 and 2019, the prevalence of dabbing and vaporizing as methods of marijuana use are increasing. In 2019, 10.2% of Colorado high school students dabbled at least once compared to 6.9% in 2017. Furthermore, dabbing became the second most (3.9%) usually used method next to smoking (10.6%) among high school students. These are concerning trends since marijuana products associated with these methods of consumption often contain high concentrations of tetrahydrocannabinol (THC), the primary psychoactive compound within marijuana. Public health and key partners should prioritize youth marijuana prevention efforts to mitigate these increasing trends.

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