



# Washington State Liquor and Cannabis Board

## Research Brief Kratom

November 2024

### LCB Research Program

The Research Program at the Washington State Liquor and Cannabis Board (LCB) is a non-partisan, transparent resource focused on public health and safety outcomes related to the products, policy, and regulation of alcohol, cannabis, tobacco, and vapor products.

### Purpose

The Research Program received a request from LCB leadership to examine the scientific literature and current regulations on kratom in response to recent legislative discussions. This brief is based on a review of existing evidence including scientific literature, government reports, policies, and other credible information sources.

This document does not represent an official position of LCB.

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For further information about the Research Program and its work, please visit:  
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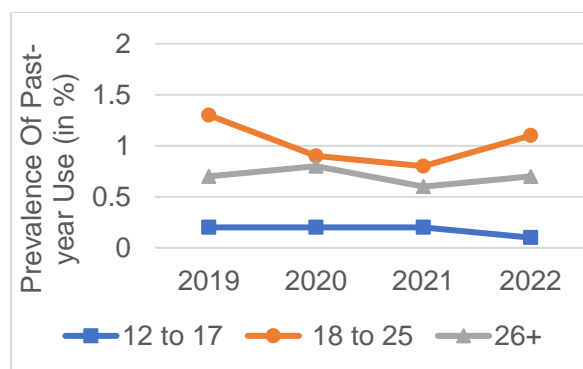
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**Background.** Kratom is a tree-like plant indigenous to Southeast Asia.<sup>1-3</sup> For centuries, the leaves of this plant have been consumed by the people in this region, often as a brewed tea, and used for various medicinal purposes, such as treating cough, fever, fatigue, and pain.<sup>2</sup> There are two main psychoactive ingredients in kratom: mitragynine and 7-hydroxymitragynine.<sup>1-3</sup> At lower doses, the psychoactive ingredients found in kratom produce stimulant-like effects.<sup>3</sup> In higher doses, it can produce sedative and analgesic effects.<sup>3</sup>

**Kratom Use in the United States (U.S.).**

The number of people in the U.S. who have used kratom in the past year is low. Two large national surveys, including the National Survey of Drug Use and Health (NSDUH), reported the prevalence of past-year kratom use to be less than 1%.<sup>4-6</sup> Another smaller survey estimated past-year kratom use to be 4%.<sup>4</sup> Studies show that use is highest among 18 to 25 year olds.<sup>6-8</sup>

*Figure 1. NSDUH Estimates on U.S. Rates of Kratom Use by Age Group.<sup>6-8</sup>*



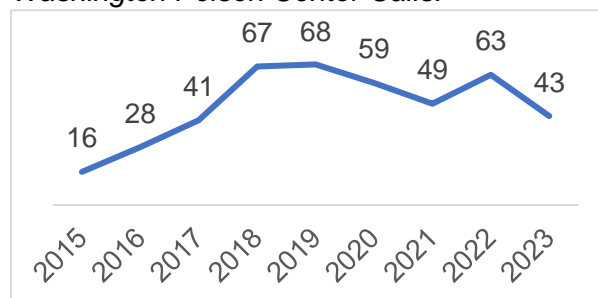
Kratom use in Washington State is not as well understood but reports from local health professionals suggest kratom use is also relatively low.<sup>9</sup> More systematic research is needed to accurately measure how common kratom is in Washington.

**Reasons for Use.** In the U.S., kratom is used for both medical and non-medical purposes. A recent study found the most

commonly endorsed reason for kratom use was “just to feel less crappy in general and improve quality of life” followed by managing anxiety symptoms, increasing energy, relieving pain, and for recreation/fun.<sup>10</sup> Individuals with a substance use disorder, particularly opioid use disorder, frequently claim it is helpful for withdrawal management.<sup>10-11</sup> Evidence from preclinical and observational studies on the therapeutic potential of kratom are generally supportive, however more research on this topic is needed.<sup>12</sup>

**Adverse Outcomes.** There are several potential negative short- and long-term consequences related to kratom use. The most common short-term negative effects include nausea, vomiting, constipation, other stomach issues, and drowsiness.<sup>13</sup> In Washington, poison center calls for acute kratom-related cases have increased over time but remain low.<sup>14</sup>

*Figure 2. Annual Kratom-Related Washington Poison Center Calls.<sup>14</sup>*



Kratom use disorder (KUD) is a potential long-term adverse outcome and involves continued use despite negative effects on overall health and wellbeing.<sup>15</sup> Common symptoms of KUD include tolerance, withdrawal, and cravings.<sup>15</sup> In a recent study, about 25% of respondents who regularly used kratom met criteria for KUD.<sup>15</sup> In that study, those with KUD were more likely to be male, younger in age, use kratom frequently, and also had psychiatric and substance use disorders.<sup>16</sup>

Kratom has also been detected in overdose deaths. In Washington, the first overdose deaths where kratom was detected occurred in 2013.<sup>9</sup> In 2022, kratom was detected in 36 overdose deaths, which is about 1% of all overdose and drug-related deaths in Washington.<sup>9</sup> However, most of these deaths (89%) also involved at least one other substance.<sup>9</sup>

Harmful contaminants have been found in some kratom products in the U.S., such as salmonella and heavy metals, which may contribute to adverse effects.<sup>17</sup> Required testing for such contaminants is a common reason cited for why government oversight of kratom may reduce public safety risks.

**Federal and State Regulations.** Kratom is not currently regulated by the Food and Drug Administration and can be sold in stores or online as supplements. Kratom is not considered a controlled substance in the U.S.<sup>17</sup> The Drug Enforcement Agency (DEA) does not currently recognize kratom as having any accepted medical use.<sup>18</sup>

State regulations across the U.S. vary. As of late 2023, a report by the [Congressional Research Service](#) found that 16 states regulate the sale of kratom products in at least one of eleven ways:<sup>17</sup>

- *Age Restriction:* Eight states ban the sale of kratom to those under 18 years old. Another eight states ban the sale of kratom to those under 21 years old.
- *Marketing to Children:* Utah and West Virginia prohibit kratom packaging and flavors that appeal to youth. They also require child-resistant packaging.
- *Adulteration/Contamination:* Five states have some regulations banning kratom products that have been adulterated (i.e., mixed) with a non-kratom substance.
- *Strength:* Four states ban the sale of products in which 7-hydroxymitragynine

is more than 2% of the total alkaloid content of kratom products.

- *Labeling:* Nine states require some form of label on kratom packaging, such as directions for safer use, warnings, manufacturer information, alkaloid content, and ingredient list.
- *Testing.* Four states require either a kratom test result, certificate of analysis, or third-party analysis.
- *Registration/Permits.* Oregon and Utah require kratom sellers to register with the state. West Virginia requires kratom sellers to have state permits.
- *Synthetic Alkaloids.* Thirteen states define and regulate 'natural' and 'synthetic' forms of kratom's psychoactive ingredients. Tennessee only allows the sale of kratom in "natural form".
- *Local Authority.* Colorado and Louisiana allow localities to adopt stricter controls related to kratom.
- *Private Right of Action:* Oklahoma and Utah permit individuals harmed by violations of state kratom laws to bring private civil actions for damages.
- *Tax.* West Virginia taxes kratom sales.

**Summary.** In other parts of the world, kratom has been used for generations for medicinal purposes. However, it has recently emerged in the U.S. over the past couple decades. Estimates for rates of use and problem use are low. More research is needed to evaluate the extent to which kratom is safe for both non-medical and medical purposes.

Most states do not regulate kratom. However, 16 states do have some regulations in place. As with other substances, youth and those with mental health problems and/or substance use disorders appear to be at highest risk of harm and are the groups using kratom most frequently.

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