

# THE HEALTH EFFECTS OF CANNABIS AND CANNABINOIDS

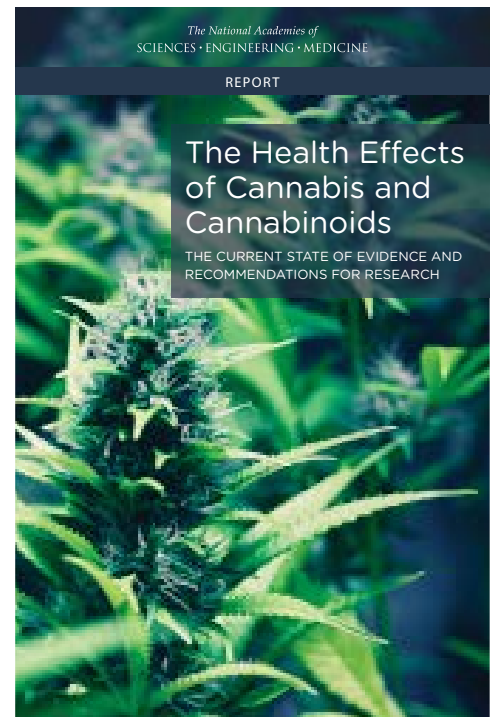
## CHAPTER HIGHLIGHTS

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In the report *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research*, an expert, ad hoc committee of the National Academies of Sciences, Engineering, and Medicine presents nearly 100 conclusions related to the health effects of cannabis and cannabinoid use and makes recommendations for an agenda to help expand and improve cannabis research efforts and better inform future public health decisions.

The Chapter Highlights below provide broad overview statements of the report's chapters regarding certain prioritized health conditions. To read the committee's conclusions in detail, as well as the definitions of weights of evidence, please see the "Committee's Conclusions" document at [nationalacademies.org/CannabisHealthEffects](http://nationalacademies.org/CannabisHealthEffects).

Each blue header below links to the corresponding chapter in the report, providing much more detail. To read the full report, please visit [nationalacademies.org/CannabisHealthEffects](http://nationalacademies.org/CannabisHealthEffects).



### THERAPEUTIC EFFECTS

In adults with chemotherapy-induced nausea and vomiting, oral cannabinoids are effective antiemetics.

In adults with chronic pain, patients who were treated with cannabis or cannabinoids are more likely to experience a clinically significant reduction in pain symptoms.

In adults with multiple sclerosis (MS)-related spasticity, short-term use of oral cannabinoids improves patient-reported spasticity symptoms.

For these conditions, the effects of cannabinoids are modest; for all other conditions evaluated, there is inadequate information to assess their effects.

### CARDIOMETABOLIC RISK

The evidence is unclear as to whether and how cannabis use is associated with heart attack, stroke, and diabetes.

### CANCER

The evidence suggests that smoking cannabis does not increase the risk for certain cancers (i.e., lung, head, and neck) in adults.

There is modest evidence that cannabis use is associated with one subtype of testicular cancer.

There is minimal evidence that parental cannabis use during pregnancy is associated with greater cancer risk in offspring.

### RESPIRATORY DISEASE

Smoking cannabis on a regular basis is associated with chronic cough and phlegm production.

Quitting cannabis smoking is likely to reduce chronic cough and phlegm production.

It is unclear whether cannabis use is associated with COPD, asthma, or worsened lung function.

## **IMMUNITY**

There exists a paucity of data on the effects of cannabis or cannabinoid-based therapeutics on the human immune system.

There is insufficient data to draw overarching conclusions concerning the effects of cannabis smoke or cannabinoids on immune competence.

There is limited evidence to suggest that regular exposure to cannabis smoke may have anti-inflammatory activity.

There is insufficient evidence to support or refute a statistical association between cannabis or cannabinoid use and adverse effects on immune status in individuals with HIV.

## **PRENATAL, PERINATAL, AND NEONATAL EXPOSURE**

Smoking cannabis during pregnancy is linked to lower birth weight in the offspring.

The relationship between smoking cannabis during pregnancy and other pregnancy and childhood outcomes is unclear.

## **PROBLEM CANNABIS USE**

Greater frequency of cannabis use increases the likelihood of developing problem cannabis use.

Initiating cannabis use at a younger age increases the likelihood of developing problem cannabis use.

## **CANNABIS USE AND ABUSE OF OTHER SUBSTANCES**

Cannabis use is likely to increase the risk for developing substance dependence (other than cannabis use disorder).

**TO READ THE FULL REPORT AND VIEW RELATED RESOURCES, PLEASE VISIT**

**[NATIONALACADEMIES.ORG/  
CANNABISHEALTHEFFECTS](https://www.nationalacademies.org/cannabishealtheffects)**

## **INJURY AND DEATH**

Cannabis use prior to driving increases the risk of being involved in a motor vehicle accident.

In states where cannabis use is legal, there is increased risk of unintentional cannabis overdose injuries among children.

It is unclear whether and how cannabis use is associated with all-cause mortality or with occupational injury.

## **PSYCHOSOCIAL**

Recent cannabis use impairs the performance in cognitive domains of learning, memory, and attention. Recent use may be defined as cannabis use within 24 hours of evaluation.

A limited number of studies suggest that there are impairments in cognitive domains of learning, memory, and attention in individuals who have stopped smoking cannabis.

Cannabis use during adolescence is related to impairments in subsequent academic achievement and education, employment and income, and social relationships and social roles.

## **MENTAL HEALTH**

Cannabis use is likely to increase the risk of developing schizophrenia and other psychoses; the higher the use the greater the risk.

In individuals with schizophrenia and other psychoses, a history of cannabis use may be linked to better performance on learning and memory tasks.

Cannabis use does not appear to increase the likelihood of developing depression, anxiety, and posttraumatic stress disorder.

For individuals diagnosed with bipolar disorders, near daily cannabis use may be linked to greater symptoms of bipolar disorder than non-users.

Heavy cannabis users are more likely to report thoughts of suicide than non-users.

Regular cannabis use is likely to increase the risk for developing social anxiety disorder.