



## **Secondhand Marijuana Smoke: Health Consequences and Policy Considerations**

### **What is Secondhand Marijuana Smoke?**

Secondhand marijuana smoke is a complex chemical mixture of smoke emitted from a marijuana cigarette (e.g., joint, spliff), pipe, cigar, or cigarillos containing marijuana (e.g., blunts) and smoke that is exhaled. Marijuana and tobacco smoke are chemically similar and have some of the same cancer-causing and toxic chemicals including acetaldehyde, ammonia, arsenic, benzene, cadmium, chromium, formaldehyde, hydrogen cyanide, isoprene, lead, mercury, and nickel. Marijuana also can be contaminated with mold, insecticides, or other chemicals that may be released in secondhand smoke.

### **What are the Health Risks?**

According to the Colorado Department of Health and Environment, “Secondhand smoke from marijuana has many of the same chemicals as smoke from tobacco, including those linked to lung cancer. Secondhand smoke exposure from marijuana can cause lung irritation and asthma attacks and makes respiratory infections more likely. If you have children or non-users in your family or home, it is important to practice safer smoking behaviors, like not smoking indoors or in your car.”

Recent peer-reviewed and published studies indicate that exposure to secondhand marijuana smoke may have health and safety risks for the public, especially due to its similar composition to secondhand tobacco smoke.

### **Exposure to Secondhand Marijuana Smoke May Present a Public Health Hazard**

- A 2021 study found that marijuana joints produce 3.5 times the average fine-particle emission rate of Marlboro tobacco cigarettes, the most popular US cigarette brand. The average emission rate of the cannabis bong was 67% that of the joint; the glass pipe was 54% that of the joint; and the vaping pen was 44% that of the joint. Fine-particle matter of 2.5 or greater poses the greatest risk to people’s health and can get deep into lungs, may even get into the bloodstream, and can affect a person’s lungs and heart.
- At least 33 individual constituents known to cause cancer are present in both marijuana smoke and tobacco smoke, according to a 2009 California Environmental Protection Agency report under the Safe Drinking Water and Toxic Enforcement Act (Proposition 65).
- Secondhand marijuana smoke and secondhand tobacco smoke are likely to have similar harmful effects on public health, including atherosclerosis (partially blocked arteries), heart attack, and stroke, according to a 2014 study of rats conducted by researchers at the University of California at San Francisco.
- Secondhand marijuana smoke contains three times the amount of ammonia than in tobacco smoke. It contains chemicals such as mercury, cadmium, nickel, lead, chromium, hydrogen cyanide, benzene, isoprene, toluene, and others, according to a 2007 Canadian government–affiliated study.
- The aerosol emissions from electronic smoking devices are not harmless. They can contain harmful and potentially harmful substances, including nicotine, heavy metals like lead, volatile organic compounds, and cancer-causing agents, according to the Centers for Disease Control.

- Particle emissions from dabbing and vaping marijuana can create levels of indoor air pollution like extreme air-pollution events like wildfires. Exposure to air pollution at this level of concentration can cause cardiovascular and respiratory disease.
- One in six infants and toddlers admitted to Children's Hospital in Colorado with coughing, wheezing, and other symptoms of bronchiolitis tested positive for marijuana exposure according to a study, "Marijuana Exposure in Children Hospitalized for Bronchiolitis" conducted between January 2013 and April 2014.

### Should Marijuana Smoking be Limited in any Public Place or Workplaces?

- Everyone should have the right to breathe smoke-free air. Smoke-free policies are designed to protect the public and all workers from the exposure to the hazardous chemicals found in secondhand tobacco smoke. The same should be true for secondhand marijuana smoke. In addition, there are alternate effective ways to use marijuana without smoking or vaping marijuana.
- Smoke-free policies in public places and workplaces should apply to tobacco or marijuana whether vaped or smoked. Allowing marijuana smoking in places where smoking is now prohibited undermines Colorado laws that protect the public from exposure to secondhand tobacco smoke and could pave the way for the return of tobacco smoking in restaurants, bars, public places, or workplaces. It may violate the section of Amendment 64 that says that nothing in the law shall "permit consumption that is conducted openly and publicly or in a manner that endangers others".
- Ventilation standards for acceptable indoor air quality require that an environment be completely free from secondhand tobacco smoke, secondhand marijuana smoke, and emissions from electronic smoking devices according to the American Society for Heating, Refrigeration, and Air Conditioning Engineering (ASHRAE) — the organization that develops engineering standards for building ventilation systems.
- Smoke-free policies used for tobacco-prevention have provided incentives to quit smoking, and help renormalize smoking behavior, and are particularly effective among youth and young adults who are vulnerable to visual cues and social norms of smoking.

### The Group to Alleviate Smoking Pollution's Position on Marijuana Smoking and Vaping

The Group to Alleviate Smoking Pollution (GASP of Colorado) is a 501-C-3 statewide nonprofit organization working to eliminate secondhand smoke from the air we breathe at work, in public places, and in multiunit housing. **Nobody should have to breathe secondhand marijuana smoke or vapors against their will at work, in public, or where they live.** Visit [gaspforair.org](http://gaspforair.org) for more information about GASP.

**In the interest of public health, the exposure to emissions from marijuana smoking or vaping should be prohibited in all public places, workspaces, and in multiunit housing.**

*For more information about secondhand marijuana or vape smoke  
visit [smokeissmoke.com](http://smokeissmoke.com)*

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#### References

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- [Marijuana Exposure in Children Hospitalized for Bronchiolitis](#)
- [CDC Facts About Electronic Cigarettes](#)
- [Measuring Aerosol Particle Emissions from Cannabis Vaporization and Dabbing](#)
- [Measuring indoor Fine Particle Concentrations, Emission Rates, and Decays Rates from Cannabis use in a Residence](#)

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Information about GASP and secondhand smoke | [gaspforair.org](https://gaspforair.org)  
Smoke-free housing listings and resources | [mysmokefreehousing.org](https://mysmokefreehousing.org)  
Information on secondhand marijuana smoke | [smokeissmoke.com](https://smokeissmoke.com)