

The Public Health Effects of Legalizing Marijuana

BY **D. MARK ANDERSON**, MONTANA STATE UNIVERSITY; AND **DANIEL I. REES**, UNIVERSIDAD CARLOS III DE MADRID

Interest in the public health consequences of marijuana legalization, at least among academics, is growing: in 2013, only four articles on this topic were published in academic journals, but throughout the next year the number had more than doubled, and by 2020 there were more than 140 articles published relating to the legalization of marijuana and public health.

Clearly, this interest is unlikely to wane any time soon. One reason is that policymakers and voters have been very active on the marijuana legalization front. During the period 2010–2020, 23 state medical marijuana laws (MMLs) went into effect and 12 state recreational marijuana laws (RMLs) went into effect. According to recent public opinion polls, two out of three Americans favor the legalization of marijuana. Given this level of support, it seems likely that more states will legalize marijuana in coming years. Several U.S. senators have recently said that they will push to end the federal prohibition on marijuana use.

Another reason why this literature has been growing so rapidly is that a wide variety of public health outcomes are readily available at the state-year level. Moreover, measuring MMLs (and, to a lesser extent, RMLs) appears, at first blush, to be straightforward: the use of marijuana for medical purposes is either legal or it is not, allowing researchers to use standard economic models without having to contend with the fact that not all MMLs are created equal. Too often in this literature only a few policy changes can be leveraged, raising the possibility of spurious or non-generalizable estimates.

Producing accurate, unbiased estimates of the effects of marijuana legalization is of obvious importance to the making of sound policy. For instance, although the initial push to legalize the use of marijuana for medicinal purposes was not in response to the opioid epidemic, several studies have produced credible evidence of a negative relationship between MMLs and deaths involving opioids, and politicians across



Editor, **JEFFREY MIRON**, Harvard University and Cato Institute.

the ideological spectrum have referred to these studies when explaining their support for legalizing both medical and recreational marijuana. Not only do published estimates appear to inform the complicated process of crafting policy but decisions at the state and local levels ultimately determine whether legalization affects just a small portion of the population—for instance, those who are suffering from cancer or diseases that affect the immune system (e.g., multiple sclerosis)—or whether it means that everyone over 21 years of age gains access.

If producing accurate estimates is important, then interpreting and conveying these estimates to a wider audience is equally important. Most policymakers have never heard of a difference-in-differences regression model, have no idea what an event study is, and do not care whether state-specific linear time trends were included on the right-hand side of the estimating equation. They count on the academic community to effectively communicate which studies should be taken seriously and which should be ignored. Given the large (and growing) number of studies on the legalization of marijuana and the fact that many of these studies appear in the medical and public health literature (both of which place less emphasis on credible causal identification strategies), the role of interpreter has taken on added significance.

Our recent review of the literature provides readers with some background information and institutional details on MMLs and RMLs and discusses the effects of legalization on consumption and price. Using published research and a

handful of notable (and publicly available) working papers, we also try to gauge the effects of legalization on other outcomes, such as youth marijuana use, the use of other substances, traffic fatalities, and crime.

Ultimately, we conclude that legalization does not promote marijuana use among teenagers. By contrast, there is convincing evidence that young adults increase their consumption of marijuana but consume less alcohol when marijuana is legalized, leading to safer roads and highways. For other public health outcomes, such as mortality involving prescription opioids, the effect of legalizing marijuana has proven more difficult to evaluate and, consequently, we are less comfortable drawing firm conclusions. Finally, several credible studies provide evidence of post-MML and post-RML reductions in criminal activity. As the number of marijuana dispensaries grows, economists will want to gauge their localized effects not only on crime but also on other public health outcomes. In general, there is a dearth of studies examining the effects of dispensaries, co-ops, and growers on neighborhood-level outcomes. We believe that this is an area ripe for future researchers to explore.

NOTE

This research brief is based on D. Mark Anderson and Daniel I. Rees, “The Public Health Effects of Legalizing Marijuana,” NBER Working Paper no. 28647, April 2021, <http://www.nber.org/papers/w28647>.



The views expressed in this paper are those of the author(s) and should not be attributed to the Cato Institute, its trustees, its Sponsors, or any other person or organization. Nothing in this paper should be construed as an attempt to aid or hinder the passage of any bill before Congress. Copyright © 2022 Cato Institute. This work by the Cato Institute is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.