

Marijuana Legalization and Marijuana Prevalence Among Adolescents

 See also Kan et al., p. 1386.

How does marijuana legalization affect the prevalence of marijuana use among adolescents? Marijuana legalization could potentially influence both supply and demand. Theoretically, it could lead to an increased supply of marijuana to adolescents and thereby increase their prevalence of marijuana use. This potential effect is limited by the fact that marijuana is already widely available to adolescents, with more than 75% of US 12th graders reporting that they could easily obtain marijuana if they wanted it in each and every year from 1975 to 2019.¹ The wide availability of marijuana to adolescents is an important finding to keep in mind during current debates on marijuana—legalization is not likely to flood the streets with marijuana because, in essence, they are already flooded with it.

Theoretically, legalization also could increase the prevalence of marijuana use among adolescents by increasing their demand for it. New medical and recreational marijuana laws across the United States over the past two decades could encourage marijuana interest and experimentation among adolescents and thereby increase prevalence. Although these laws changed the legal status of marijuana for adults and not adolescents, legalization may have sent a “signal”² to

adolescents that marijuana use is safe and state approved, thereby increasing prevalence.

Separating out the sum total effect of marijuana legalization from the many other influences on the attitudes and behaviors of adolescents is a difficult task. One way to approach this question with scientific rigor is to follow over time the prevalence of adolescent marijuana use in states that have and have not legalized marijuana use. Levels of adolescent marijuana use would be expected to increase more quickly in states that legalize use, if legalization leads to higher levels of adolescent marijuana use.

To date, legalization appears to have had little effect on marijuana prevalence among adolescents. The authors of a 2013 *AJPH* article concluded that medical marijuana legalization laws “have not measurably affected adolescent marijuana use in the first few years after their enactment.”³ This conclusion was based on a scientifically rigorous research design that compared before and after trends in adolescent marijuana use across states that did and did not legalize medical marijuana use. Furthermore, a recent article with a similar research design found no disproportionate increase in adolescent prevalence of marijuana use among states that legalized recreational marijuana use.⁴

In this issue of *AJPH*, Kan et al. (p. 1386) contribute to the field with a focus on the specialized group of justice system-involved adolescents. As they point out, marijuana use levels in this group are substantially higher than they are in the general population. In addition, this high-risk group may well have unique exposure to factors that influence and moderate marijuana use. In brief, recreational marijuana laws may have a specific effect on vulnerable, at-risk groups that may not be detectable at the population level.

That being said, Kan et al. found no effect of recreational marijuana laws on prevalence of marijuana use among justice system-involved youths. Specifically, among 504 justice system-involved adolescents in California, marijuana use levels in the past 24 hours were similar in 2015 (before recreational marijuana use was legalized) and in 2018 (after marijuana use was legalized and implemented), at slightly less than 31% at both time points. The authors compared the findings of this control group with those of a group of justice

system-involved adolescents in Pennsylvania, a state that has not legalized recreational use and had lower levels of marijuana use than in California at baseline. The gap in marijuana use prevalence across the groups in the two states would be expected to grow if recreational marijuana laws increased adolescent marijuana use; in fact, the gap actually grew smaller because marijuana prevalence increased relatively faster among the Pennsylvania adolescents.

Taken as a whole, these studies suggest that marijuana legalization has not had much overall effect on marijuana use by children and adolescents, at least during the past two decades. From 2000 to 2019, marijuana legalization changed substantially, and now medical marijuana is legal in 33 states and recreational marijuana use in 11. Despite these changes, adolescent marijuana prevalence has varied little, with the national percentage of US 12th graders who have ever used marijuana hovering within a narrow window of 42% to 49% during this time period.¹ In 2019, it was at 44%, toward the lower end of this range.¹

Current legalization efforts have mobilized substantial resources among opponents concerned that legalization may increase prevalence of marijuana use among children and adolescents. The current evidence suggests that these resources

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could potentially be more effectively deployed if they were directed to efforts with a track record of reducing adolescent substance use. The dramatic decline in adolescent cigarette smoking over the past two decades serves as an exemplar. Specifically, from 2000 to 2019, the percentage of 12th-grade students who had ever smoked a cigarette decreased gradually and steadily from 63% to 22%.¹ Today, cigarette smoking among adolescents is at the lowest level ever recorded since nationally representative surveys began tracking it in 1975.¹ All these changes took place while cigarette smoking was legal among adults. And it is worth noting that when these declines started around the year 2000, they were preceded by many years of adolescent cigarette smoking at a constant, high prevalence, much as adolescent marijuana use has been for the past 20 years.

Although it would likely constitute a book in itself to examine all the lessons from adolescent cigarette reduction that could potentially apply to marijuana, a few key points are worth mentioning here. First, one major strategy to reduce adolescent cigarette smoking has been scientifically informed, national media campaigns targeted at adolescent cigarette use that have taken place over the past 20 years.^{5,6} To my knowledge, no scientifically informed, national media campaigns targeted specifically at adolescent marijuana use have yet been attempted, despite evidence from regional studies supporting their potential effectiveness.⁷ Second, efforts to reduce adolescent cigarette smoking have used a repertoire of strategies that include educational campaigns in schools, taxes to reduce demand, and health care reform to cover the cost of

disease prevention initiatives and cessation programs. These strategies warrant consideration as candidates for efforts to reduce adolescent marijuana use. Finally, it is important to note that the reduction in adolescent cigarette smoking was a long process that did not take place overnight. It is because the efforts to reduce adolescent cigarette smoking were sustained, prolonged, and cumulative that they resulted in such remarkable overall declines.

In summary, prevalence of marijuana use among adolescents has remained remarkably steady over the past 20 years despite substantial changes in its legality across the United States during this period. Consequently, opposition to marijuana legalization does not seem to be a promising strategy to curb and ultimately lower levels of adolescent marijuana use. Instead, the successful campaign to lower prevalence of adolescent cigarette smoking offers an array of other candidate strategies with more potential. None of these strategies are magic bullets that will lower adolescent marijuana use overnight; instead, they will require the hard work of building consensus among influential stakeholders and developing infrastructure to keep successful strategies in operation over long periods of time. **AJPH**

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CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

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