

# Cannabis legalization decreases the stock market value of major pharmaceutical firms

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Researchers from California Polytechnic State University and The University of New Mexico find that stock market investors predict cannabis legalization will reduce conventional pharmaceutical sales by billions of dollars.

In their recent study, "U.S. Cannabis Laws Projected to Cost Generic and Brand Pharmaceutical Firms Billions," published in *PLOS One*, Ziemowit Bednarek from the Finance department at California Polytechnic State University, Sarah Stith from the University of New Mexico's Economics department, and a co-author studied how the stock market returns of publicly traded pharmaceutical firms responded to medical and recreational cannabis [legalization](#) events. They found that stock market returns were 1.5–2% lower at 10 days following a cannabis legalization event and that the implications of the annual sale from this reduction were in the billions.

Other studies have determined that cannabis access reduces the consumption of specific types of medications, such as opioids, or in certain patient populations like Medicaid patients, but this

is the first study to analyze the overall effect of cannabis on pharmaceutical firms across all products and types of patients. Unlike other drugs, which are designed to target and are approved for specific conditions, cannabis is used to treat an astonishing range of conditions including [physical symptoms](#) such as headaches and [muscle spasms](#) as well as mental conditions such as depression and anxiety.

The cost of pharmaceutical drugs remains a major barrier to healthcare for many Americans and a significant financial burden to state and [federal governments](#)—cannabis may be part of the solution. The current study concludes that cannabis acts as a new competitor in drug markets. Extrapolating the results to full federal legalization, the authors estimate a reduction in conventional pharmaceutical sales of almost 11%. Substitution away from conventional drugs towards cannabis appears to be occurring even without standardization, clear dosing instructions, or health insurance coverage.

Co-author Sarah Stith continues, "Currently, cannabis patients and their providers have little information to guide them towards the most effective treatment for their condition. The future of cannabis medicine lies in understanding the prevalence and effects of the plants' components beyond THC and CBD and identifying ways to categorize cannabis by measurable characteristics that are known to yield specific effects. Mimicking conventional pharmaceuticals through standardization may not be the optimal endpoint for cannabis, as the variability inherent in the cannabis plant is likely driving its ability to treat so many conditions."

In addition to their overall findings that cannabis legalization decreases the stock market value of publicly traded pharmaceutical firms, the authors found that recreational legalization had more than twice the impact of medical legalization,

presumably because of the much larger affected population as medical cannabis access is typically restricted to those with severe, debilitating conditions. Branded drug manufacturers were more affected than generic manufacturers, perhaps due to a greater competitive impact from cannabis entry on drugs without any existing competitors.

The study concludes that conventional pharmaceutical manufacturers may benefit from investing in cannabis markets rather than lobbying against them and that regulatory policy should facilitate further research into the risks and benefits of using cannabis for both medical and recreational reasons. The magnitude of the negative effect of cannabis legalization on the stock market returns from investing in conventional pharmaceutical firms suggests that cannabis is likely to be a permanent and growing player in pharmaceutical markets worldwide.

**More information:** Ziemowit Bednarek et al, U.S. cannabis laws projected to cost generic and brand pharmaceutical firms billions, *PLOS ONE* (2022).  
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