MOTOR VEHICLE CRASH FATALITIES AND UNDERCOMPENSATED CARE ASSOCIATED WITH LEGALIZATION OF MARIJUANA.

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Abstract

BACKGROUND:

Half of U.S. states have legalized medical cannabis (marijuana), some allow recreational use. The economic and public health effects of these policies are still being evaluated. We hypothesized that cannabis legalization was associated with an increase in the proportion of motor vehicle crash fatalities involving cannabis-positive drivers, and that cannabis use is associated with high-risk behavior and poor insurance status.

METHODS:

Hawaii legalized cannabis in 2000. Fatality Analysis Reporting System (FARS) data were analyzed before (1993-2000) and after (2001-2015) legalization. Presence of cannabis (THC), methamphetamine, and alcohol in fatally injured drivers were compared. Data from the state's highest level trauma center were reviewed for THC status from 1997-2013. State Trauma Registry data from 2011-2015 were reviewed to evaluate association between cannabis, helmet/seatbelt use, and payor mix.
RESULTS:

THC-positivity among driver fatalities increased since legalization, with a three-fold increase from 1993-2000 to 2001-2015. Methamphetamine, which has remained illegal, and alcohol positivity were not significantly different before versus after 2000. THC-positive fatalities were younger, and more likely single-vehicle accidents, nighttime crashes, and speeding. They were less likely to have used a seatbelt or helmet. THC-positivity among all injured patients tested at our highest level trauma center increased from 11% before to 20% after legalization. From 2011-2015, THC-positive patients were significantly less likely to wear a seatbelt or helmet (33% vs 56%). They were twice as likely to have Medicaid insurance (28% vs 14%).

CONCLUSIONS:

Since legalization of cannabis, THC-positivity among MVC fatalities has tripled statewide, and THC-positivity among patients presenting to the highest level trauma center has doubled. THC-positive patients are less likely to use protective devices and more likely to rely on publically funded medical insurance. These findings have implications nationally and underscore the need for further research and policy development to address the public health effects and the costs of cannabis-related trauma.

LEVEL OF EVIDENCE:

3, original research, prognostic.

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