State Medical Marijuana Laws and NSDUH Marijuana Use and Consequences Since 2004

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Since 1996, 20 states and DC passed laws legalizing medical use of marijuana (40% of all states), and other states are considering such laws. Whether these fast-changing laws lead to increases in marijuana use (MU) is now largely a matter of opinion and debate. Responding to NIDA PA 11-230, we propose to investigate the relationship between MML and MU, MU disorders and consequences of MU in both adolescents and adults, using an outstanding resource, the restricted access data files from the National Survey on Drug Use and Health (NSDUH), 2004 and onwards, that we are authorized to access through SAMHSA's new NSDUH Restricted Use Files Data Portal. These data files include important variables not included in the public use files, including state of residence, exact respondent age, and detailed race/ethnicity information. We will also incorporate state-level data external to NSDUH (e.g., Census demographic data, state arrest rates, emergency department visits, MML variation) as potential confounders and outcomes in our models comparing states with and without MML.

The proposed study is a comprehensive, timely, and innovative investigation of these issues, designed to provide much-needed, important information to health scientists, policy-makers and the public. Primary aims are to: 1a) Examine individual-level MU and MU disorder from 2004 to 2014 as a function of state-level MML; 1b) Using data from the US states that approved MML after 2004, examine the effects of different time lags (e.g., 1-, 2-years) before and after passage of the laws on individual-level MU and MU disorder. 2) Explore whether state-level variations in MML or specific aspects of MML (e.g., variations of amounts allowed per patient, registration rules, permitted medical conditions) are associated with the prevalence of MU, how individuals acquire marijuana, and how much they pay for it. 3) Investigate whether passage of state MML is followed by change in individual risk for (a) other substances (alcohol, nonmedical prescription opioid, cocaine, heroin use), relative to trends in the US states without MML (increase, per the gateway hypothesis; or decrease, per the substitution hypothesis); (b) consequences related to marijuana use (i.e., arrests, incarceration, legal problems), relative to any change in the risk for these consequences in states without MML. 4) Investigate whether racial/ethnic (non-Hispanic White, non-Hispanic Black, Asian, and Hispanic) and age (i.e., adolescents, young adults, and older adults) differences in past-year and past-month prevalence of MU and MU disorders and potential consequences of MU change as a function of the passage of state-level MML.

Our research team includes experts in substance abuse epidemiology and biostatistics as well as an expert with extensive expertise in marijuana laws and marijuana markets. Our analyses will employ multilevel regression modeling. This study will address questions of major public health significance, adding important knowledge about fast-changing marijuana laws and their effects on MU among adults and adolescents, contributing to general knowledge about the relationship of legislation to substance use.