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# Unintentional Pediatric Exposures to Marijuana in Colorado, 2009-2015

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## Abstract

**Importance** As of 2015, almost half of US states allow medical marijuana, and 4 states allow recreational marijuana. To our knowledge, the effect of recreational marijuana on the pediatric population has not been evaluated.

**Objective** To compare the incidence of pediatric marijuana exposures evaluated at a children's hospital and regional poison center (RPC) in Colorado before and after recreational marijuana legalization and to compare population rate trends of RPC cases for marijuana exposures with the rest of the United States.

**Design, Setting, and Participants** Retrospective cohort study of hospital admissions and RPC cases between January 1, 2009, and December 31, 2015, at Children's Hospital Colorado, Aurora, a tertiary care children's hospital. Participants included patients 0 to 9 years of age evaluated at

the hospital's emergency department, urgent care centers, or inpatient unit and RPC cases from Colorado for single-substance marijuana exposures.

**Exposure** Marijuana.

**Main Outcomes and Measures** Marijuana exposure visits and RPC cases, marijuana source and type, clinical effects, scenarios, disposition, and length of stay.

**Results** Eighty-one patients were evaluated at the children's hospital, and Colorado's RPC received 163 marijuana exposure cases between January 1, 2009, and December 31, 2015, for children younger than 10 years of age. The median age of children's hospital visits was 2.4 years (IQR, 1.4-3.4); 25 were girls (40%). The median age of RPC marijuana exposures was 2 years (IQR, 1.3-4.0), and 85 patients were girls (52%). The mean rate of marijuana-related visits to the children's hospital increased from 1.2 per 100 000 population 2 years prior to legalization to 2.3 per 100,000 population 2 years after legalization ( $P=.02$ ). Known marijuana products involved in the exposure included 30 infused edibles (48%). Median length of stay was 11 hours (interquartile range [IQR], 6-19) and 26 hours (IQR, 19-38) for admitted patients. Annual RPC pediatric marijuana cases increased more than 5-fold from 2009 (9) to 2015 (47). Colorado had an average increase in RPC cases of 34% ( $P<.001$ ) per year while the remainder of the United States had an increase of 19% ( $P<.001$ ). For 10 exposure scenarios (9%), the product was not in a child-resistant container; for an additional 40 scenarios (34%), poor child supervision or product storage was reported. Edible products were responsible for 51 exposures (52%).

**Conclusions and Relevance** Colorado RPC cases for pediatric marijuana increased significantly and at a higher rate than the rest of the United States. The number of children's hospital visits and RPC case rates for marijuana exposures increased between the 2 years prior to and the 2 years after legalization. Almost half of the patients seen in the children's hospital in the 2 years after legalization had exposures from recreational marijuana, suggesting that legalization did affect the incidence of exposures.

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