



EVIDENCE-BASED POSITION STATEMENT

Legalization of Possession and Use of Marijuana for Non-Medical Reasons by Adults in Illinois

July 9, 2018

Summary: The Illinois Senate and House are considering legislation (SB 316 and HB 2353) that would lay the groundwork to legalize possession and use of marijuana by adults in Illinois for recreational use. Such efforts would expand permitted use beyond the current use of cannabis for specified medical purposes in the state. Based on evidence from other states with laws permitting cannabis for medical use and laws permitting broader (“recreational”) legalization of marijuana, Lurie Children’s Hospital opposes efforts to legalize possession and use of marijuana by adults in Illinois because of specific short-term and long-term health risks to children and adolescents.

Evidence of Adverse Effects on Health of Children and Adolescents

In 2015, the American Academy of Pediatrics summarized the impact of marijuana policies on the health of youth and issued their most recent policy statement on this topic. The Academy opposes legalization of marijuana because of the potential harms to children and adolescents.¹ The evidence cited in this position statement, and the conclusions drawn by a panel of clinical experts at Lurie Children’s, build on and extend beyond the evidence cited by the AAP.

Short-term risks to children’s health: Accidental ingestion of marijuana-containing items is a threat to children’s health, as documented in a systematic review published in 2017 of multiple peer-reviewed articles.² The review cites multiple analyses of medical records and poison control reports in US states and in European countries that have decriminalized marijuana. As an example, a study in Arizona (which decriminalized medical marijuana in 2010) from 2010 through 2013 found that calls to a poison center about accidental ingestions of marijuana by children increased from 0 in 2010 to 6 in 2011, 27 in 2012, and 16 in 2013.³ As another example, a US study focusing on calls to the National Poison Data System attributed to cannabis-infused brownies, candies, cookies, beverages, or other cannabis-infused foods from 2013-2015 found that over 90% of 190 calls for children <6 years old were from states that had decriminalized marijuana, more than one-half of these cases had required treatment at a hospital (most commonly for neurologic toxicity), and 2 had required intubation (ie, intensive medical care for life-threatening circumstances⁴).

¹ American Academy of Pediatrics Committee on Substance Abuse and Committee on Adolescence. *Pediatrics*. 2015; DOI 10.1542/peds.2014-4146.

² Richards JR, Smith NE, Moulin AK. *Jour Pediatrics*. 2017;190:142-152.

³ Lovecchio F, Heise CW. *Am J Emerg Med*. 2015;33:844-845.

⁴ Cao D, Srisuma S, Bronstein AC, Hoyte CO. *Clin Toxicol (Phila)*. 2016;54:840-846.



In a more clinically detailed study of children evaluated in the emergency department for unintentional marijuana ingestion at the University of Colorado, Aurora (Children's Hospital of Colorado) from 2005 through 2011 (years before and after a federal policy change in 2009 not to seek arrest of medical marijuana users who were conforming with state laws), there were no patients <12 years old who sought emergency care for marijuana ingestions between January 1, 2005, and September 30, 2009, but this number increased to 14 during the 2 years afterwards; this change represented a statistically significant increase from 0% of all patients <12 years old who sought emergency care for ingestions to 2.4% of patients at this hospital. Of these 14 patients, 8 required hospitalization and 2 were admitted to the intensive care unit.⁵ Subsequent to legalization of recreational marijuana in Colorado, in the first nine months of 2014 another 14 children were admitted to the University of Colorado, Aurora (Children's Hospital of Colorado) and 7 were admitted to the intensive care unit.⁶

Use of marijuana during pregnancy also poses a risk to fetal development and young children's health and development. For this reason, the American College of Obstetricians and Gynecologists clearly discourages use of cannabis (including for medical uses) during pregnancy.⁷ In California, which has permitted cannabis for medical uses for nearly two decades, about 1 in 5 pregnant women under 25 years old in a large private health insurance plan of over 4 million members self-reported or would found through toxicology tests to use marijuana during pregnancy in 2016.⁸ In Colorado, which only recently legalized recreational marijuana, marijuana use during pregnancy among women 15-24 years old is 12.8%, despite the presence of a public health messaging campaign targeting pregnant and breastfeeding women that warns about dangers of cannabis use.⁹ These high rates of use among pregnant women in California and Colorado contrast with national past-year use rates of about 7% among pregnant women measured through 2012, which are older data and also include women in states that did not permit either medical or recreational cannabis at the time the data were collected.¹⁰ Among experts, there is concern that permitting recreational use may encourage even higher use of cannabis during pregnancy, given that there are limited to no public health informational campaigns about the dangers of marijuana use to the fetus. Across dozens of studies, cannabis use during pregnancy is associated with restricted intrauterine growth,¹¹ low birthweight, and a greater need for neonatal intensive care.¹² In addition, follow-up studies

⁵ Wang GS, Roosevelt GS, Heard K. *JAMA Pediatrics*. 2013;167:630-633.

⁶ Monte AA, Zane RD, Heard KJ. *JAMA*. 2015;313:241-242.

⁷ American College of Obstetricians and Gynecologists, Committee on Practice. Available at: <https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Marijuana-Use-During-Pregnancy-and-Lactation>.

⁸ Young-Wolff KC, Tucker L-Y, Alexeeff S, et al. *JAMA*. 2017;318:290-2491.

⁹ Colorado Department of Public Health and Environment, 2016. Data File: Colorado Child Health Survey, 2014-15.

¹⁰ Ko JY, Farr SL, Tong VT, et al. *Am J Obstet Gynecol*. 2015;213: 201.e1-201.e10.

¹¹ Zuckerman B, Frank DA, Hingson R, et al. *New Engl J Med*. 1989;320:762-768.

¹² Gunn JK, Rosales CB, Center CE, et al. *BMJ Open*. 2016;6:e009986.



suggest that children who were exposed to cannabis in the womb are more likely to have problems with verbal reasoning, comprehension, and short-term memory that interfere with learning during early childhood.¹³

Long-term health risks for children and adolescents: Among adolescents, the developing brain is particularly vulnerable to the effects of psychoactive substances such as cannabis.^{14 15} A long-term follow-up study of adolescents into adulthood found that adolescent-onset persistent users of cannabis showed neuropsychological declines from ages 13 to 38 years, whereas adult-onset persistent users of cannabis did not.¹⁶

Most teens who try marijuana do not become addicted, but younger age of initiation of substance use is associated with an increased risk of developing substance use disorder in later adolescence and adulthood.¹⁷ In a comprehensive analysis of 3 long-term studies from Australia and New Zealand, individuals who were daily users of cannabis before age 17 years were significantly less likely to complete high school, less likely to attain a college/university degree, more likely to have dependence on cannabis, use other illicit drugs, and attempt suicide by age 30 years.¹⁸

Evidence of Positive Benefits of Legislation Permitting Cannabis Use for Medical Purposes

Use of cannabis preparations for medical purposes is currently permitted in Illinois for specific diagnostic indications. Studies of states that permit medical use of cannabis versus those that do not have revealed the following favorable population health trends:

- States with medical cannabis laws had a 24.8% lower mean annual opioid overdose mortality rate (all ages) compared with states without medical cannabis laws.¹⁹ This finding is consistent with studies of cannabis use in adult patients with chronic pain, for whom cannabis use was associated with significantly lower opioid use, better quality of life, and fewer medication side effects and medications used.²⁰
- There were overall reductions in Medicare program and enrollee spending for prescription drugs when states implemented medical use of cannabis, estimated to be \$165.2 million per year nationally in 2013. If generalized to all states, the authors predicted a savings of 0.5% in annual Medicare Part D prescription drug costs.²¹
- A similar study of prescription drug use in Medicaid indicated an 11 percent reduction in

¹³ Wu CS, Jew CP, Lu HC. *Future Neurol.* 2011;6:459-480.

¹⁴ Volkow ND, Baler RD, Compton WM, Weiss SR. *New Engl J Med.* 2014;370:22189-2227.

¹⁵ Volkow ND, Swanson JM, Evins AE, et al. *JAMA Psychiatry.* 2016;73:292-297.

¹⁶ Meier MH, Caspi A, Ambler A, et al. *Proc Natl Acad Sci USA.* 2012;109:E2657-E2664.

¹⁷ Winters KC, Lee CY. *Drug Alcohol Depend.* 2008;92:239-247.

¹⁸ Silins E, Horwood LJ, Patton GC, et al. *Lancet Psych.* 2014;286-293.

¹⁹ Bachhuber MA, Saloner B, Cunningham CO, Barry CL. *JAMA Internal Med.* 2014;174:1668-1673.

²⁰ Boehnke KF, Litinas E, Clauw DJ. *Jour Pain.* 2016;17:739-744.

²¹ Bradford AC, Bradford WD. *Health Affairs.* 2016;35:1230-1236.



spending for medications used to treat pain and 17 percent reduction for medications used to treat nausea.²²

Of note, these positive trends were accomplished in the setting of permissions for medical use of cannabis, *not* legalized recreational use. Given that Illinois already permits cannabis use by individuals with specific qualifying medical diagnoses, the disease and symptom modifying benefits of cannabis at the population level may have already been realized.

There is no evidence that broadening marijuana legislation to permit recreational use will further improve public health. One study suggested that, as Colorado legalized recreational cannabis, the rate of opioid-related deaths declined in Colorado compared with historical trends. However, legalization of recreational cannabis occurred within just 5 months of a change in the Colorado prescription drug monitoring program. The study's authors point out that part of the effect attributed to recreational cannabis could be the result of the change in the prescription drug monitoring program instead,²³ and therefore these results should be interpreted very cautiously. Moreover, these results have not been replicated in other states.

Recommendations

- Based on the expertise of our physicians, nurses, and scientists at Lurie Children's Hospital, the legalization of marijuana pursuant to SB 316 and HB 2353 presents both short-term and long-term risks for children and adolescents, in terms of their health and their future intellectual development. For this reason, Lurie Children's Hospital opposes efforts to legalize possession and use of marijuana for non-medical purposes by adults in Illinois.
- In the current policy environment of permitted use of cannabis for medical purposes in Illinois, Lurie Children's Hospital recommends the development of public health messaging campaigns to pregnant women and to youth about the health risks of cannabis use for the developing brains of infants, children and adolescents.
- In addition, Lurie Children's Hospital supports efforts to lift the federal restrictions on research regarding cannabis, so that the health effects of cannabis for children and adolescents can be more fully assessed.

²² Bradford AC, Bradford WD. *Health Affairs*. 2017;36:945-951.

²³ Livingston MD, Barnett TE, Delcher C, Wagenaar AC. *Am J Public Health*. 2017;107:1827-1829.



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