



# Medical Marijuana Guidelines for Practice: Health Policy Implications

Kathleen Russell, JD, MN, RN, Maureen Cahill, RN, MSN, &  
Karen G. Duderstadt, PhD, RN, CPNP, FAAN

Cannabis use in pediatric health care remains limited, however, there is increasing evidence on the pharmacologic benefits of medical marijuana for chronic conditions in childhood. Realizing the need for guidance in practice, the National Council of State Boards of Nursing (NCSBN) published guidelines to aid in decision making in nursing practice. While focusing primarily on adult use of cannabis, the guidelines do address special populations such as children and adolescents. This article reviews the endocannabinoid system, current state of legislation on medical marijuana, policy considerations, recent FDA approval of a cannabis product for pediatric use, NCSBN National Nursing Guidelines for Medical Marijuana, and pediatric implications for nursing practice. *J Pediatr Health Care.* (2019) 33, 722–726

## KEY WORDS

Marijuana, cannabis, health policy, pediatric, children

## BACKGROUND

Cannabis use was first documented about 3,000 years ago; tetrahydrocannabinol (THC), a phytocannabinoid, was only

isolated from the cannabis plant in 1964, and then the cannabinoid receptor for THC was identified in 1984. These discoveries led to the understanding that the body has a series of regulatory mechanisms, which comprise the endocannabinoid system (Backes, 2014). A network of cannabinoid receptors is primarily comprised of two subtypes: cannabinoid receptor 1 (CB<sub>1</sub>), mainly located in the central nervous system, and cannabinoid receptor 2 (CB<sub>2</sub>), mainly in the immune system. The endocannabinoids work locally to modulate the flow of neurotransmitters, which are related to the maintenance of homeostasis (Backes, 2014).

Over 100 cannabinoids have now been isolated from the cannabis plant; however, research primarily focuses on THC and cannabidiol (CBD) as the most pharmacologically active constituents. THC interacts with CB<sub>1</sub>, contributing to the central nervous system effects of THC, whereas CBD interacts with CB<sub>2</sub>, contributing to its anti-inflammatory effects (Thomas et al., 2007).

The Comprehensive Drug Abuse Prevention and Control Act (1970) created a classification for drugs, substances, and chemicals. Schedule I substances are considered to have no accepted medical value and present a high potential for abuse. Marijuana (cannabis) was classified in 1970 as a Schedule I substance, which not only prohibits practitioners from prescribing cannabis but also prohibits most research from using cannabis except under rigorous oversight from the National Institute on Drug Abuse (2017). These obstacles contribute to the paucity of cannabis research into possible medical indications, particularly in children and adolescents (National Academies of Sciences, Engineering, and Medicine, 2017; NCSBN, 2018a).

Although marijuana remains a Schedule I substance, states have steadily and increasingly legalized the medical and recreational use of marijuana, with rapid legislative activity in the past five years (Table 1). This dichotomy between the federal and state laws creates uncertainty for providers; however, state laws legalizing use of marijuana provide an exemption from federal law. Currently, 33 states, District of

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Kathleen Russell, Associate Director Nursing Regulation, National Council of State Boards of Nursing, Chicago, IL.

Maureen Cahill, Associate Director of Nursing Regulation, National Council of State Boards of Nursing, Chicago, IL.

Karen G. Duderstadt, Clinical Professor Emerita, University of California, San Francisco School of Nursing, Department of Family Health Care Nursing, San Francisco, CA.

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Correspondence: Karen G. Duderstadt, PhD, RN, CPNP, FAAN, University of California San Francisco, 2 Koret Way, Box 0606, San Francisco, CA 94143-0606; e-mail: [karen.duderstadt@ucsf.edu](mailto:karen.duderstadt@ucsf.edu).

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Columbia, Guam, Puerto Rico, and U.S. Virgin Islands have approved comprehensive Medical Marijuana Programs (MMPs), and 12 states allow the use of “low THC, high CBD” products for limited medical purposes or as a legal defense (National Council of State Legislatures [NCSL], 2019). MMPs do not allow providers to prescribe cannabis for medical use, but they do indicate specific qualifying conditions for the use of medical marijuana and allow providers to certify the existence of state qualifying conditions for a specific patient. Three states remain in which no form of cannabis, including CBD, is legal: Idaho, South Dakota, and Nebraska (Doheny, 2019; State Marijuana Laws in 2019 [map], 2019). Restrictions on access to CBD for pediatric seizure treatment caused some parents to relocate their families to states where such use of medical marijuana was legalized (Talamo, Kelley, & Swyter, 2015).

The recent passage of *The Agriculture Improvement Act (2018)*, known as the Farm Bill, allowed for the cultivation and sale of hemp, which is derived from the *Cannabis sativa* plant. Generally, hemp contains less THC and more CBD. Section 10113 of the Farm Bill indicates that for the *Cannabis sativa* plant to be considered as hemp, it cannot contain more than 0.3% THC. States and the federal government are required to work together in the licensing and regulation of hemp products. However, the FDA has issued warning letters to firms that market unapproved drugs that allegedly contain CBD (FDA, 2019).

### The Efficacy of Cannabis

Despite the limitations on cannabis research, there is some moderate to high quality evidence available for effective treatment with cannabis for chemotherapy-induced nausea and vomiting, pain (resulting from cancer or rheumatoid arthritis), chronic pain (resulting from fibromyalgia), neuropathies (resulting from HIV/AIDS, multiple sclerosis [MS], or diabetes), spasticity (from MS or spinal cord injury; NCSBN, 2018a), and most recently, the reduction of seizure frequency in children and young adults with Dravet syndrome and Lennox-Gastaut syndrome (FDA, 2018). The evidence supporting the efficacy of cannabinoids for the treatment of these conditions is limited to the populations, symptoms, formulations, dosages, and administration methods noted in the original research.

Devinsky et al. (2017) conducted a randomized controlled trial of CBD for children and young adults with drug-resistant Dravet syndrome who were on standard antiepileptic treatment. CBD significantly reduced the frequency of convulsive seizures in the study group; however, they reported a high percentage of adverse symptoms including loss of appetite, diarrhea, and drowsiness, with some side effects related to interactions with other antiepileptic drugs (Devinsky et al., 2017). Beyond the use of CBD in chemotherapy-induced nausea and vomiting and treatment of epilepsy in children and young adults, there is currently insufficient evidence to support the use of cannabinoids for spasticity, neuropathic pain, posttraumatic stress disorder, and Tourette syndrome (Wong & Wilens, 2017). An important consideration in caring for children with chronic health conditions and their families is to encourage parental disclosure of cannabinoid use and to establish a continued partnership with the care team so other prescribed medications are maintained while the study of the cannabis effect continues.

### State and Federal Policy

The FDA approved the synthetic cannabinoid products, dronabinol and nabilone in 1985 (FDA, 2006a; FDA, 2006b). These drugs are synthetic cannabinoids primarily interacting on CB<sub>1</sub>, similar to THC. Dronabinol is indicated for anorexia associated with weight loss in patients with AIDS and nausea and vomiting associated with cancer chemotherapy in patients who have failed to respond adequately to conventional antiemetic treatments, whereas nabilone is indicated for nausea and vomiting.

Epidiolex, an oral CBD plant-derived product recently approved by the FDA, is based on four clinical trials in patients aged two years or older with either Lennox-Gastaut syndrome or Dravet syndrome (FDA, 2018). After the approval of Epidiolex by the FDA, the U.S. Drug Enforcement Agency reclassified Epidiolex as a Schedule V drug (low potential for addiction or abuse; United States Drug Enforcement Agency, 2018). Sativex, another pharmaceutical marijuana product, contains a 1:1 ratio of THC and CBD and is administered as an oral mucosal spray. Sativex is indicated for adults with moderate-to-severe spasticity owing to MS who have not responded adequately to other antispasticity medication (GW Pharmaceuticals,

**TABLE 1. Cannabis legislation through July 15, 2019**

Type of medical marijuana program	Jurisdictions
Medical Marijuana Program	AK, AR, AZ, CA, CO, CT, DC, DE, FL, GU, HI, IL, LA, <sup>a</sup> MA, MD, ME, MI, MN, MO, <sup>a</sup> MT, ND, NH, NJ, NM, NV, NY, OH, OK, OR, PA, PR, RI, UT, VI, VT, WA, WV <sup>a</sup>
Allow cannabidiol products with minimal or no THC content (often used for intractable seizures and/or use restricted to clinical studies)	AL, GA (> 5% THC), IA (> 3% THC), IN (> 0.3% THC), IO, KS (0% THC), KY, MO, MS, NC, SC (> 0.9%), TN (> 0.9% THC), TX (> 0.5% THC), UT, VA (> 5% THC), WI, WY
Advanced practice registered nurses allowed to certify a qualifying condition referred to in medical marijuana statute	DC, HI, MA, MD, ME, MN, ND, NH, NY, RI, UT, VI, VT, WA
Recreational use of cannabis	AK, CA, CO, DC, IL, <sup>b</sup> MA, ME, MI, NV, OR, VT, WA
No cannabis statutes	ID, NE, SD

<sup>a</sup>Medical Marijuana Program not functional yet.  
<sup>b</sup>Recreational use legal January 1st, 2020. Adapted from National Council of State Boards of Nursing (NCSBN, 2018a).

n.d.). Although approved for use in over 25 countries, this product is not approved in the United States.

In 1996, California approved the first legalization of medical marijuana, and other states have continued to legalize the medical and recreational use of cannabis owing to advocacy by citizen groups and increasing evidence of therapeutic treatment effects for chronic pain conditions in adults (NCSL, 2018). In California, Illinois, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, Oregon, and Rhode Island, a “designated caregiver” within the MMP allows some health care providers to assist in the administration of marijuana products to patients in certain settings (National Council of State Legislators, 2017). A recent Colorado law has now made it clear that school personnel may possess and administer medical marijuana to a student who holds a valid recommendation for medical marijuana. The law gave the school district Board of Education or charter school permission to adopt policies regarding who may act as a primary caregiver for the administration of marijuana to students. (Policy for student possession and administration of prescription medication—Rules, 2018). It is important to note the use of the words “may administer” in this law; school personnel are not “required” to administer medical marijuana. This can present a conflict between parents and the school when the school district makes a decision not to allow personnel to administer medical marijuana. The Colorado Association of School Nurses (n.d.) issued a position statement regarding this law.

Virginia recently passed a law which removes prosecution for possession or distribution by a school employee delivering health-related services for storing, dispensing, or administering CBD oil or THC-A (tetrahydrocannabinolic acid) oil, the precursor to psychoactive THC. In accordance with a policy adopted by the local school board, a school employee can administer marijuana products to a student who has been issued a valid written certification for the use of such products (Code of Virginia, 2019).

### Pediatric Policy Implications

The greatest concern regarding the use of cannabis products has been the impact on the developing brain including interference with learning, concentration, motor control, judgment, and problem solving in adolescents who use cannabis recreationally, either short or long term (Ammerman, Ryan, & Adelman, 2015; Cerdá et al., 2017; Mouro, Ribeiro, & Sebastião, 2018). The American Academy of Pediatrics (AAP) issued a policy statement regarding marijuana policies and youth in 2015 (AAP, 2015). The AAP is opposed to marijuana use in patients aged 0–21 years because of the data supporting the negative health and brain development effects of marijuana. Additionally, the AAP opposes the use of marijuana outside the processes of the FDA; however, the AAP does recognize that marijuana products may be an option for children with life-limiting or severely debilitating conditions or for whom current therapies are inadequate (AAP, 2015).

Recreational use of marijuana must also be a consideration in caring for children and youth. The state of

Washington legalized recreational marijuana use in 2012; and subsequent to the change from medical only to medical and recreational marijuana legality, researchers investigated the impact of recreational marijuana legality and marijuana use in youth (Mason et al., 2016). The results indicated that marijuana use was more prevalent among teens shortly after the transition in laws allowing recreational marijuana legalization. Although the findings were not statistically significant, there was some evidence of effect on the reduction of alcohol and tobacco use in teens who reported marijuana use (Mason et al., 2016). Some studies have reported increased frequency of marijuana use in adults and youth in states with legalization of medical marijuana with others reporting a “spillover” effect with marijuana use in youth and increased alcohol use among adults (Choo et al., 2014; Lynne-Landsman, Livingston, & Wagenaar, 2013).

In Colorado, where recreational use was also legalized in 2012, there have been reports of accidental ingestion by children revealing effects such as ataxia, lethargy, and respiratory depression. However, currently approved drug therapies employ primarily the CBD component of cannabis, which is associated with a very small percentage of the psychoactive component THC and few adverse event reports (Ammerman et al., 2015; Wong & Wilens, 2017). Medical use of marijuana has been available in Colorado for nearly 20 years, and less than 1% of those issued medical marijuana permit cards were minors (Colorado Department of Public Health & Environment, n.d.).

### Guidelines for Nursing Practice

Recognizing that more states are legalizing medical marijuana, the NCSBN published nursing guidelines to aid in decision making in nursing practice (NCSBN, 2018a). The guidelines provide advanced practice registered nurses (APRN) and pediatric nurses with evidence-based principles and nursing implications while caring for patients using medical marijuana and for certifying the use of medical marijuana (see Box; NCSBN, 2018b).

### BOX. NCSBN Principles of Essential Knowledge for Nursing Practice

- ⇒ have a working knowledge of the current state of legalization of medical and recreational cannabis use
- ⇒ have a working knowledge of the use of cannabis for medical purposes
- ⇒ have an understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids, and the interactions between them
- ⇒ have an understanding of cannabis pharmacology and the research associated with the medical use of cannabis
- ⇒ be able to identify the safety considerations for patient use of cannabis
- ⇒ approach the patient without judgment regarding the patient’s choice of treatment or preferences in managing pain and other distressing symptoms

Adapted from NCSBN (2018a).

Following the NCSBN publication of nursing guidelines for medical marijuana, the National Association of School Nurses (NASN) issued a position brief in January 2019 on cannabis and marijuana (NASN, 2019). The contradiction between federal and state laws has created uncertainty for the school nurse when cannabis products are brought into the school setting for administration to students. Safe administration of cannabis has not yet been established for use in the school setting in most states (NASN, 2019). However, the school nurse must work closely with parents who are using cannabis-based products for their children so that appropriate planning and care coordination may occur.

Despite cannabis' limited evidence for efficacy, legality, and policy considerations, an important nursing implication in caring for children with chronic health conditions and their families is to encourage parental disclosure of cannabis or cannabinoid use and to establish a continued partnership with the care team so other prescribed medications are maintained while cannabis research, legality, and policy evolve.

## CONCLUSION

All nurses and pediatric health care providers must become familiar with their state laws and regulations and, most importantly, must be aware of the principles of safe and knowledgeable practice to promote patient safety when caring for patients using medical marijuana. For APRNs who are authorized to certify a qualifying condition, they must additionally be knowledgeable of their responsibilities when certifying a qualifying condition.

## REFERENCES

American Academy of Pediatrics [AAP]. (2015). The impact of marijuana policies on youth: Clinical, research, and legal update. Retrieved from <https://pediatrics.aappublications.org/content/135/3/584>

Ammerman, S., Ryan, S., Adelman, W. P., Committee on Substance Abuse, & the Committee on Adolescence. (2015). The impact of marijuana policies on youth: Clinical, research, and legal update. *Pediatrics*, *135*, e769–e785.

Backes, M. (2014). *Cannabis Pharmacy: The Practical Guide to Medical Marijuana*. New York, NY: Black Dog & Leventhal Publishers.

Cerdá, M., Wall, M., Feng, T., Keyes, K. M., Sarvet, A., Schulenberg, J., ... Hasin, D. S. (2017). Association of state recreational marijuana laws with adolescent marijuana use. *JAMA Pediatr*, *171*, 142–149.

Choo, E. K., Benz, M., Zaller, N., Warren, O., Rising, K. L., & McConnell, K. J. (2014). The impact of state medical marijuana legislation on adolescent marijuana use. *J Adolesc Health*, *55*, 160–166.

Code of Virginia (2019). § 18.2-251.1:1 Possession or distribution of cannabidiol oil or THC-A oil, public schools, cc. 573, 574.

Colorado Association of School Nurses. (n.d.). CASN position on HB18-1286. Retrieved from <http://coloradoschoolnurse.org/assets/casn-position-on-hb18-1286.pdf>

Colorado Department of Public Health & Environment. (n.d.). Medical marijuana statistics and data. Retrieved from <https://www.colorado.gov/pacific/cdphe/medical-marijuana-statistics-and-data>

Comprehensive Drug Abuse Prevention and Control Act. (1970). U.S.C. §§801 – 904 (1970).

Devinsky, O., Cross, H., Laux, L., Marsh, E., Miller, I., Nabbout, R., ... Wright, S. (2017). Trial of cannabidiol for drug-resistant seizures in Dravet syndrome. *N Engl J Med*, *376*, 2011–2020.

Doheny K. (2019). Marijuana, hemp, CBD oil: What's legal and where? Retrieved from <https://www.webmd.com/pain-management/news/20190108/marijuana-hemp-cbd-whats-legal-and-where>

GW Pharmaceuticals. (n.d.). Sativex, <https://www.gwpharm.com/healthcare-professionals/sativex#>

Lynne-Landsman, S. D., Livingston, M. D., & Wagenaar, A. C. (2013). Effects of state medical marijuana laws on adolescent marijuana use. *Am J Public Health*, *103*, 1500–1506.

Mason, W. A., Fleming, C. B., Ringle, J. L., Hanson, K., Gross, T. J., & Haggerty, K. P. (2016). Prevalence of marijuana and other substance use before and after Washington State's change from legal medical marijuana to legal medical and nonmedical marijuana: Cohort comparisons in a sample of adolescents. *Subst Abuse*, *37*, 330–335.

Mouro, F. M., Ribeiro, J. A., Sebastião, A. M., & Dawson, N. (2018). Chronic, intermittent treatment with a cannabinoid receptor agonist impairs recognition memory and brain network functional connectivity. *J Neurochem*, *147*, 71–83.

National Academies of Sciences, Engineering, and Medicine. (2017). *The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research*. Washington DC: The National Academies Press.

National Association of School Nurses [NASN]. (2019). Position Brief - Cannabis/Marijuana. Retrieved from <https://www.nasn.org/advocacy/professional-practice-documents/positionbriefs/pb-cannabis>

National Council of State Boards of Nursing [NCSBN]. (2018a). The NCSBN national nursing guidelines for medical marijuana. *J Nurs Regul*, *9*, S1–60.

National Council of State Boards of Nursing [NCSBN]. (2018b). Medical marijuana education in APRN nursing programs. *J Nurs Regul*, *9*, S33–S37.

National Council of State Legislators [NCLS]. (2017). Supporting relative caregivers of children. Retrieved from <http://www.ncsl.org/research/human-services/relative-caregivers.aspx>

National Institute on Drug Abuse. (2017). NIDA's role in providing marijuana for research. Retrieved from <https://www.drugabuse.gov/drugs-abuse/marijuana/nidas-role-in-providing-marijuana-research>

National Council of State Legislatures [NCSL]. (2018). Marijuana overview: Legislation. Retrieved from <http://www.ncsl.org/research/civil-and-criminal-justice/marijuana-overview.aspx>

National Council of State Legislatures [NCSL]. (2019). State medical marijuana laws. Retrieved from <http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx>

Policy for student possession and administration of prescription medication—Rules. (2018). Colo. Rev. Stat § 22-1-119.3.

State Marijuana Laws in 2019 [map]. (2019). Retrieved from: <http://www.governing.com/gov-data/safety-justice/state-marijuana-laws-map-medical-recreational.html>

Talamo L., Kelley C., & Swyter N. (2015). Parents demand medical marijuana for epileptic kids, Retrieved from <https://www.nbcnews.com/health/health-news/parents-demand-medical-marijuana-epileptic-kids-n411186>

The Agricultural Improvement Act. (2018). H.R. 2 — 115th Congress: Agriculture Improvement Act of 2018. Retrieved from <https://www.govtrack.us/congress/bills/115/hr2>

Thomas, A., Baillie, G. L., Phillips, A. M., Razdan, R. K., Ross, R. A., & Pertwee, R. G. (2007). Cannabidiol displays unexpectedly high potency as an antagonist of CB1 and CB2 receptor agonists in vitro. *Br J Pharmacol*, *150*, 613–623.

United States Drug Enforcement Administration. (2018). FDA-approved drug Epidiolex placed in schedule V of Controlled Substance Act. Retrieved from <https://www.dea.gov/press-releases/2018/09/27/fda-approved-drug-epidiolex-placed-schedule-v-controlled-substance-act>

Food & Drug Administration [FDA]. (2006a). Cesamet. Retrieved from [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2006/018677s011lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2006/018677s011lbl.pdf)

Food & Drug Administration [FDA]. (2006b). Marinol. Retrieved from [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2006/018651s025s026lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2006/018651s025s026lbl.pdf)

Food & Drug Administration [FDA]. (2018). Department drug trials snapshots: Epidiolex. Retrieved from <https://www.fda.gov/drugs/drug-approvals-and-databases/drug-trials-snapshots-epidiolex>

Food & Drug Administration [FDA]. (2019). Warning letters and test results for cannabidiol-related products. Retrieved from <https://www.fda.gov/news-events/public-health-focus/warning-letters-and-test-results-cannabidiol-related-products>

Wong, S. S., & Wilens, T. E. (2017). Medical cannabinoids in children and adolescents: A systematic review. *Pediatrics*, 140, 1–16.



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