Letter of Support - HB 1135 & SB 587.pdf
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City of Havre de Grace
Office of the Mayor

William T. Martin

February 23, 2023

The Honorable Antonio Hayes
Senator, District 40
11 Bladen Street
Annapolis, MD 21401

The Honorable Steven Johnson
Delegate, District 34A
6 Bladen Street, Room 311
Annapolis, MD 21401

RE: Support: HB 1135 & SB 587 – *"Compassionate Access to Medical Cannabis Act"*

Greetings Senator Hayes and Delegate Johnson,

As you may recall in 2020, the Mayor and City Council passed Resolution 2020- 01, a Resolution that supported HB331 and SB605 (Connor' s Courage), that supported medical cannabis for students who were qualified patients, to be administered medical cannabis on school property.

As we learn more about the benefits of using medical cannabis, House Bill 1135 and Senate Bill 587, take the necessary next steps to require medical facilities to allow qualifying patients with certain certifications, to consume medical cannabis within a health care facility, if the qualifying patient is receiving certain medical care at the health facility.

Both House Bill 1135 and Senate Bill 587 were discussed at the February 21, 2023 meeting of The Mayor and City Council of Havre de Grace, whereby the Mayor and City Council Members voted unanimously to endorse, by virtue of this letter, the City's full support of both House Bill 1135 and Senate Bill 587. The City thanks each of you for your support on this very important issue.

Sincerely,

William T. Martin
Mayor, City of Havre de Grace

SB 587_FAV_City of Havre de Grace (2).pdf
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City of Havre de Grace
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March 9, 2023

The Honorable Melony Griffith, Chair
Senate Finance Committee
3 East
Miller Senate Office Building
Annapolis, Maryland 21401

RE: FAVORABLE - SB 587 – Health Care Facilities – Use of Medical Cannabis

Madam Chair and the Honorable Members of the Senate Finance Committee:

The Mayor and City Council of Havre de Grace ("the City") supports SB 587. If passed, the bill would allow for a qualifying patient who has written certification to consume medical cannabis within a healthcare facility if the patent is receiving nonemergency medical care.

The City respectfully requests the committee give SB 587 a favorable report.

SB587 DIX Testimony.pdf
Uploaded by: Alexander Dix
Position: FAV

Dr. Alexander Dix, PharmD
9 Cranbrook Rd
Cockeysville, Maryland 21030

Testimony Related to SB587 Compassionate Access in Hospitals

Greetings mothers and sons, I am a private man who is fortunate enough to animate the role of clinical director from time to time and have done so for the last four and a half years in the Maryland Medical Cannabis industry. I want to thank those who came before me and established this program for Marylanders, and Connor Sheffield for his bravery. I fully support this bill, and I wish to remind you that pursuant to the Declaration of Independence, Article 1, Section 8, Clause 14 of the Federal Constitution, Articles 1 and 4 the Maryland Declaration of Rights, and Article 3, Section 56 of our own Constitution of Maryland, regulations, codes, and ordinances are for the Government, the governed, you – who have taken oaths of office, not private people.

Therefore, this bill I advocate in favor of is for you all who have taken oaths of office, and sadly for my beloved private men and women who unknowingly personate State agents and animate statutory persons, individuals, and residents to become legal patients.

From my clinical and professional experience, I find the most important aspects of this bill for your consideration are:

The continuation of therapy leads to improved patient outcomes and symptom control versus discontinuing then having to restart therapy. It is easier to achieve the target result when there is

already a level of medicine in the body, rather than starting over from zero with the potential re-experiencing of unwanted symptoms. This is especially true for opioids.

The hospitals minimize liability by:

- Allowing the patient to bring their own medicine, eliminating any financial encumbrance to the institution.
- Allowing the patient to self-administer, who, without a doubt has more insight into self-administration and self-monitoring (with regards to cannabis) than any professional or support staff.
- Locking the medication away from patient hands until scheduled use.

Improved patient outcomes will lead to increased HCAHPS scores and thus higher reimbursement from the Centers for Medicare & Medicaid Services (CMS).

Any concerns about drug interactions and contraindications can be relieved through using a drug database (e.g., LexiComp, or MicroMedex), and by checking blood work upon admission enables us to see how the patient has already been using their cannabis in conjunction with prescribed medications. We're already seeing this in California.

Finally, the medicine will only be used in non-smokable forms which are far easier to calculate accurate doses and produce no damage to the throat or lungs.

Thank you for your consideration.

Dr. Alexander Dix, PharmD

SB587 testimony.docx.pdf
Uploaded by: Antonio Hayes
Position: FAV

ANTONIO HAYES
Legislative District 40
Baltimore City

Finance Committee

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THE SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401

SB587 - Health Care Facilities - Use of Medical Cannabis – SUPPORT
Senator Antonio Hayes

March 9, 2023

Good Afternoon Madam Chair and Members of the Committee,

We are here today requesting your support of Senate Bill 587 which would allow a qualifying patient with a valid written certification to consume medical cannabis within the health care facility if the patient is receiving non-emergency medical care at the health care facility, subject to specified requirements, prohibitions, and exceptions.

As Maryland moves forward with the legalization of recreational cannabis, one important aspect has been missed – allowing patients to have access to their medical cannabis – their medicine – when they enter a healthcare facility for treatment. In 2017, the Maryland Medical Cannabis Commission intended for this to be allowed as new laws were passed and even put regulations in place to do so. At this time, it is critical that we prioritize the rights and access for qualifying medical cannabis users.

So, what does SB587 do?

- Allows Increased Access to Medical Cannabis: Patients who require medical cannabis to manage their symptoms or condition will have access to their medication even while receiving medical care at a health care facility.
- Improved Quality of Life: Medical cannabis has been shown to alleviate symptoms of many conditions, including chronic pain, nausea, and anxiety. Allowing patients to consume medical cannabis while receiving medical care can improve their quality of life and comfort levels.
- Reduced Risk of Adverse Drug Interactions: Some medications can interact negatively with medical cannabis. Allowing patients to consume their medical cannabis within the health care facility under medical

supervision can reduce the risk of adverse drug interactions. If patients are sneaking in medical cannabis, this bill would allow for transparency between the patient and their doctor which would minimize the risk of adverse drug interactions.

- Enhanced Patient Autonomy: Patients should have the right to make choices about their medical care, including the use of medical cannabis. This bill provides patients with the autonomy to manage their symptoms with medical cannabis if they have a medical certification and choose to do so.
- Reduced Stigma: Allowing patients to consume medical cannabis within health care facilities can reduce the stigma associated with medical cannabis use. This can promote better communication between patients and healthcare providers and ultimately improve patient care.
- Opioid Harm Reduction: Medical cannabis has been shown to be effective in managing chronic pain, which is a common reason for opioid use. By allowing patients to use their medical cannabis in health care facilities, SB587 provides an alternative to opioid painkillers for certified medical cannabis users, which can help reduce the risk of opioid addiction and overdose. (Studies have suggested that medical cannabis use may be associated with a reduction in opioid use.)

What does SB587 not do?

- SB587 only applies to medical cannabis and does not allow for the use or possession of recreational cannabis in medical facilities.
- It does not permit the use of medical cannabis in all health care facilities. Health care facilities can choose to opt-out of the requirement to allow medical cannabis consumption, and patients cannot use medical cannabis in areas of the facility where it is not permitted.
- It does not allow patients to smoke medical cannabis. Patients are only allowed to consume medical cannabis through other forms such as edibles, tinctures, or vaporizers.
- It does not allow patients to possess or consume medical cannabis on the premises of the health care facility if they do not have a qualifying medical condition or certification from a healthcare provider.
- It does not allow hospitals or nurses to distribute or administer medical cannabis, it doesn't even involve hospitals to recommend medical cannabis. This specifically is for medical cannabis patients who already have a qualifying medical certification.

You will hear from the opposition that passing this legislation would remove funding as the Federal Government still classifies cannabis as a Schedule I drug, but this is simply not the case. We have seen a similar law passed in California with no funding revoked; and the Centers for Medicare Services even provided a letter that noted they had not seen any funding revoked where similar laws had passed. (Maine, Connecticut, Mississippi for a few similar examples.) (Similar legislation is currently being introduced in 16 other state legislations.)

As more states decriminalize cannabis and even create recreational markets, we must not forget to also update the books for the most important consumers of all—patients."

For these reasons, I ask for a favorable report on SB587. Thank you.

Respectfully,

Senator Antonio L. Hayes
40th Legislative District – MD

NCSBNNatGuide.pdf
Uploaded by: Dawn Marie Steenstra
Position: FAV

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THE OFFICIAL JOURNAL OF THE NATIONAL COUNCIL OF STATE BOARDS OF NURSING

JOURNAL OF NURSING REGULATION

Advancing Nursing Excellence for Public Protection

The NCSBN National Nursing Guidelines for Medical Marijuana

Current Legislation, Scientific Literature Review, and Nursing Implications

Nursing Care of the Patient Using Medical Marijuana

Medical Marijuana Education in Pre-Licensure Nursing Programs

Medical Marijuana Education in APRN Nursing Programs

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NCSBN GUIDELINES FOR THE NURSING CARE OF Patients Using Marijuana

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The NCSBN Medical Marijuana Guidelines Committee:
Kathleen Russell, JD, MN, RN; Maureen Cahill, MSN, APN-CNS, RN; Kent Gowen, MA;
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Diana Heywood, MN, RN; James (Dusty) Johnston, JD; Sherri Sutton-Johnson, MSN, RN

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Advancing nursing excellence for public protection

Mission

The *Journal of Nursing Regulation* provides a worldwide forum for sharing research, evidence-based practice, and innovative strategies and solutions related to nursing regulation, with the ultimate goal of safeguarding the public. The journal maintains and promotes National Council of State Boards of Nursing's (NCSBN's) values of integrity, accountability, quality, vision, and collaboration in meeting readers' knowledge needs.

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The *Journal of Nursing Regulation* accepts timely articles that may advance the science of nursing regulation, promote the mission and vision of NCSBN, and enhance communication and collaboration among nurse regulators, educators, practitioners, and the scientific community. Manuscripts must be original and must not have been nor will be submitted elsewhere for publication. See www.journalofnursingregulaton.com for author guidelines and manuscript submission information.

Letters to the Editor

Send to Maryann Alexander at malexander@ncsbn.org.

The NCSBN National Nursing Guidelines for Medical Marijuana

Prior to 1936, cannabis was sold over the counter and used commonly for a variety of illnesses in the Unites States (Marijuana Policy Project, 2014). By 1936, every state had passed a law to restrict possession of cannabis, thus eliminating its availability as an over-the-counter drug. Then in 1970, the Comprehensive Drug Abuse Prevention and Control Act (1970) provided a classification of controlled substances; cannabis was included in the list of Schedule I Controlled Substances, thereby continuing the prohibition of the use of cannabis by prohibiting health care practitioners from prescribing cannabis.

Use of cannabis remained restricted until the first legalization of medical marijuana was approved by voters in California in 1996. Even after the voters' approval, the federal government opposed the proposition and threatened to revoke the prescription-writing abilities of doctors who recommended or prescribed marijuana. It was not until 2000 that a group of physicians challenged this policy and prevailed in court, and a decision was made to allow physicians to recommend—but not prescribe—medical marijuana (Marijuana Policy Project, 2014).

Since then, an increasing cultural acceptance of cannabis has prompted 31 jurisdictions (including the District of Columbia), Guam, Puerto Rico (National Conference of State Legislatures [NCSL], 2017), and all provinces/territories of Canada (Government of Canada, 2016) to pass legislation legalizing medical cannabis. In these laws, the jurisdiction has adopted exemptions legalizing the use of cannabis for medical purposes. An increasing proportion of jurisdictions have also decriminalized and legalized recreational cannabis use.

The use of either medical or recreational cannabis raises evolving public health, nursing practice, science, legal, education, ethical, and social issues. Of significance, there is a contradiction between the federal law classifying cannabis as a Schedule I Controlled Substance and various states legalizing its use medically, recreationally, or both. This federal classification has prevented open and unlimited research on cannabis. As a result, research on the efficacy of cannabis for treatment of certain medical conditions is limited and lacking. Specifically, the research has not definitively specified indications, dosage, route, safety, adverse effects, and long-term effects of cannabis.

Without evidence that is scientifically rigorous, statistically reportable, and based on patient populations, nurses will face increasing challenges concerning medical cannabis. To address the lack of guidelines for nurses when caring for individuals utilizing cannabis, the National Council of State Boards of Nursing Board of Directors appointed members to the Medical Marijuana Nursing Guidelines Committee (see Appendix A). In order to create the requested guidelines and recommendations for education and care, a review of the relevant statistics, current legislation, scientific literature, and clinical research on cannabis as a therapeutic agent was required. The Committee also consulted known experts in the area of medical marijuana, its use, safety, and legislation. This report documents the results of this work and presents this important information in two parts. Part I presents the results of these reviews and consultations; Part II presents the specific Guidelines created by the Committee: nursing care of the patient using medical marijuana, medical marijuana education in pre-licensure nursing programs, medical marijuana education in APRN nursing programs, and APRNs certifying a medical marijuana qualifying condition.

Current Legislation, Scientific Literature Review, and Nursing Implications

The surge of cannabis legislation has outpaced research on the use of cannabis due to the restrictions placed on that research as a result of its classification as a Schedule I Controlled Substance (Comprehensive Drug Abuse Prevention and Control Act, 1970). Nurses are left without evidence-based resources when caring for patients who use medical or recreational cannabis products. Research is possible, but only under rigorous oversight from the government. The process for obtaining cannabis for federally funded research purposes is cumbersome and unlike any other procedures for drug research.

Importantly, the reader must be aware that cannabis as a therapeutic agent has not been reviewed by the U.S. Food & Drug Administration (FDA) to determine if it is safe or effective and therefore is not subject to the quality standards and safety information collection standards that are applicable to most prescription drugs. This report provides a means to inform nurses about the current scientific literature regarding medical use of cannabis as well as areas that currently lack scientific evidence.

It was not until 1973 that scientists discovered how cannabis functioned within the body – as a component of the endocannabinoid system. The endocannabinoid system consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids (Mackie, 2008). These cannabinoid receptors are evident throughout the body, embedded in cell membranes thought to promote homeostasis. Endocannabinoids are naturally occurring substances within the body, while phytocannabinoids are plant substances found in cannabis that stimulate cannabinoid receptors. The most well known of these phytocannabinoids is tetrahydrocannabinol (THC); however cannabidiol (CBD) and cannabinol (CBN) are also gaining attention (Pacher, Batkai, & Kunos, 2006).

Notwithstanding the restrictions resulting from the classification of cannabis as a Schedule I Controlled Substance, high-quality clinical evidence has emerged that establishes the efficacy of cannabis for certain therapeutic applications. However, despite studies describing the value of cannabis in the treatment of certain conditions, its safety has not been fully established by large-scale, randomized clinical trials. Some safety information does exist for cannabis (Ware et al., 2015), but the current research does not fully encompass all available formulations of cannabis or conditions and populations treated with cannabis. Thus, the current evidence for the efficacy and safety of cannabis and cannabinoids has narrow application. For the majority of qualifying conditions typically included in a jurisdiction's medical marijuana program, sufficient experimental evidence does not exist to reasonably demonstrate the therapeutic efficacy, especially for long-term use. Additionally, there is a lack of evidence regarding the numerous strains and preparations of cannabis available as well as its comparative efficacy to standard medications, dosage, tolerability, and safety. Without additional large-scale clinical studies, cannabis remains a complementary and alternative medicine, a drug of last resort, or salvage therapy. It is the hope of many researchers and medical organizations that future research will be less restricted and therefore allow more scientific evidence to elucidate well-founded dosages, delivery routes, and indications. (This report uses many terms related to cannabis and medical marijuana and their programs. See Table 1 for a list of definitions used in this report).

TABLE 1

Definitions of Terms Used in This Report

Authorize. Any act of certification, attestation, or other method for a practitioner to affirm that a patient may benefit from medical cannabis. This is explicitly not a prescription.

Cannabis. Any raw preparation of the leaves or flowers from the plant genus *Cannabis*. This report uses "cannabis" as a shorthand that also includes cannabinoids.

Cannabidiol (CBD). A major cannabinoid that indirectly antagonizes cannabinoid receptors, which may attenuate the psychoactive effects of tetrahydrocannabinol.

Cannabinoid. Any chemical compound that acts on cannabinoid receptors. These include endogenous and exogenous cannabinoids.

Cannabinol (CBN). A cannabinoid more commonly found in aged cannabis as a metabolite of other cannabinoids. It is nonpsychoactive.

Certify. For the purpose of this report, to "certify" is the act of confirming that a patient has a qualifying condition. Many jurisdictions use alternative phrases, such as "attest" or "authorize"; however, 13 of 29 jurisdictions use "certify" language in their statutes.

Clinical research. For the purpose of this report, "clinical research" involves studies that experimentally assign randomized human participants to one or more drug interventions to evaluate the effects on health outcomes. Contrasted with **Preclinical research or studies**, which experimentally or observationally use animal models, cell cultures, and/or biochemical assays to determine possible biological effects of an intervention. These studies also include observational studies of human participants that do not control interventions.

Designated caregiver. An individual who is selected by the Medical Marijuana Program qualifying patient and authorized by the Medical Marijuana Program to purchase and/or administer cannabis on the patient's behalf. Also sometimes referred to as an "alternate caregiver."

Dronabinol. The generic name for synthetic tetrahydrocannabinol. It is the active ingredient in the Food & Drug Administration (FDA)-approved drug Marinol (FDA, August 2017).

Endocannabinoid system. A system that consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids (Mackie, 2008).

Marijuana. A cultivated cannabis plant, whether for recreational or medicinal use. The words "marijuana" and "cannabis" are often used interchangeably in various lay and scientific literature. This report will primarily use the word "cannabis" as a shorthand that also includes cannabinoids. When referring to a medical marijuana program, this report will use the word "marijuana," as it is often used within program references.

Medical Marijuana Program (MMP). The official jurisdictional resource for the use of cannabis for medical purposes. Search the jurisdiction's website or Department of Health for "medical cannabis program" or "medical marijuana program" (National Conference of State Legislatures, 2017).

Nabilone. The generic name for a synthetic cannabinoid similar to tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration's (FDA)-approved drug Cesamet (FDA, 2006).

Schedule I Controlled Substances. Defined in the federal Controlled Substances Act as those substances that have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the substance under medical supervision.

Tetrahydrocannabinol (THC). One of many cannabinoids found in cannabis. THC is believed to be responsible for most of the characteristic psychoactive effects of cannabis (U.S. Department of Transportation, National Highway Traffic Safety Administration, 2017).

Federal and State Legislation Through 2018

Over the past few decades, the federal government and individual states have instituted varying legal approaches regarding the availability and dispensing of cannabis for medical purposes.

Federal Legislation and Actions

The U.S. federal government, through Title 21 United States Code (Comprehensive Drug Abuse Prevention and Control Act, 1970), has the authority to evaluate drugs and other substances. This law was enacted to protect the public, stating: "illegal importation, manufacture, distribution, and possession and improper use of controlled substances have a substantial and detrimental effect on the health and general welfare of the American people."

Substances classified as Schedule I Controlled Substances are considered to have no accepted medical value and present a high potential for abuse. Cannabis and its derivatives have been classified as Schedule I Controlled Substances since the enactment of the Controlled Substance Act in 1970. This Drug Enforcement Administration (DEA) classification not only prohibits practitioners from prescribing cannabis; it also prohibits most research using cannabis except under rigorous oversight from the government's National Institute on Drug Abuse.

The process for obtaining cannabis for federally funded research purposes is cumbersome and unlike any other drug research. Currently, the only legal source of cannabis for research purposes is grown in limited quantities at the University of Mississippi (National Institute on Drug Abuse [NIDA], May 2017). The DEA sets a quota for the amount of cannabis that can be grown for research studies (Drug Enforcement Administration [DEA], 2017). Applications to use this source of cannabis must be made to the FDA, DEA, and National Institute on Drug Abuse (NIDA, March 2017).

Although the use of marijuana pursuant to authorized medical marijuana programs (MMPs) conflicts with federal law and regulations, at present there is no controlling case law holding that Congress intended to preempt the field of regulation of cannabis use under its supremacy powers (*Beek v. City of Wyoming*, 2014; Mikos, 2012).

The federal government's position on prosecuting the use of cannabis that is legal under the law of the applicable jurisdiction has been set out in U.S. Department of Justice (DOJ) position papers. In 2009, the U.S. Attorney General took a position that discouraged federal prosecutors from prosecuting people who distribute or use cannabis for medical purposes in compliance under the law of the applicable jurisdiction (U.S. Department of Justice [DOJ], 2009); further similar guidance was given in 2011, 2013, and 2014 (DOJ, 2011, 2013, 2014). In January 2018, the U.S. Office of the Attorney General rescinded the previous nationwide guidance specific to marijuana enforcement (DOJ, 2018). The 2018 memorandum provides that federal prosecutors follow the well-established principles in deciding which cases to prosecute, namely, the prosecution is to weigh all relevant considerations, including priorities set by the attorneys general, seriousness of the crime, deterrent effect of criminal prosecution, and cumulative impact of particular crimes on the community.

Numerous federal bills have been introduced in recent years in an effort to reschedule cannabis to allow more research, but as of 2017, none of these bills passed the House of Representatives or the Senate (S. 683, 2015; H.R. 1013, 2015; H.R. 715, 2017; H.R. 1227, 2017; H.R. 1841, 2017).

In 2016, congressional representatives called on the DEA to reschedule cannabis (Bernstein, 2016). The FDA requested a scientific and medical evaluation and scheduling recommendation from the Department of Health and Human Services (HHS) (Rosenberg, 2016a). HHS concluded that "marijuana has a high potential for abuse, has no accepted medical use in the United States, and lacks an acceptable level of safety for use even under medical supervision" (DEA, 2016, August 12). The DEA denied petitions to reschedule cannabis as a Schedule II Controlled Substance (drugs with a currently accepted medical use in treatment in the United States or a currently accepted medical use with severe restrictions due to the high potential for abuse, which may lead to severe psychological or physical dependence) or lower, stating that cannabis will remain a Schedule I Controlled Substance because the DEA considers cannabis to have a high potential for abuse with no medical benefit (Rosenberg, 2016b). However, the DEA recognized the lack of scientific study on cannabis and announced a policy change, which expanded the number of DEA-registered cannabis manufacturers (Rosenberg, 2016a). This should provide for an increased supply of cannabis for FDA-authorized research purposes. Despite this policy change, the DEA has yet to approve any application to become a licensed producer of cannabis for research (Joseph, 2017). Researchers hoping to study the medical effects of cannabis face a protracted wait time for plant material. The plant material that they do receive contains a substantially lower quantity of cannabinoids than the wide variety of that is available through dispensaries, limiting the applicability of research results (Vergara et al., 2017). This federal bottleneck and low cannabis quality stymie and effectively hinder new and available studies.

State Legislation and Actions

Summarizing the specifics of each jurisdiction's medical marijuana legislation is difficult because there are few commonalities among MMPs (Bestrashniy & Winters, 2015). The practitioner should review the unique characteristics of a jurisdiction's MMP (NCSL, 2017). The relevant statute is most easily located through the jurisdiction's Department of Health and MMP; useful links are provided through the National Council of State Legislatures (NCSL, 2017).

Since the first MMP in California (Compassionate Use Act of 1996), the trend among states is toward legalizing cannabis for medical use (Halperin, 2016). In 15 states, the public initiated the MMP legislation and ratified it by a ballot measure (ProCon.org, 2017). More recently, medical cannabis laws were passed by state legislatures (ProCon.org, 2017).

MMPs include various provisions regarding the process for procuring a certification for the use of cannabis as well as the amount of cannabis distributed to an individual, and legal protections extended to patients, designated caregivers, and health care providers (NCSL, 2017). MMPs each create a list of qualifying conditions for the use of cannabis (NCSL, 2017). MMPs operate on the best available scientific information, which is limited by the restrictions on cannabis research. Therefore, many qualifying conditions were likely included because of promising preclinical research (this includes research on animals and isolated cellular/tissue samples).

Some MMPs require a bona fide health care provider–patient relationship in order to certify a patient as having a qualifying condition. Other MMPs require a preexisting and ongoing relationship with the patient as a treating health care provider, while some note that the relationship may not be limited to issuing a written certification for the patient or a consultation simply for that purpose. Additionally, a few MMPs specify that an advanced practice registered nurse (APRN) can certify a qualifying condition (NCSL, 2017). Some MMPs require a specific course or training in order for a provider to participate in certifying an MMP qualifying condition (NCSL, 2017).

Patients with a certification of a qualifying condition must register with the local MMP. A registered patient can obtain cannabis from a jurisdiction-authorized cannabis dispensary. Procurement and administration of cannabis for medical purposes are limited to the patient and/or the patient's designated caregiver. The MMP will specify whether designated caregivers are permissible as well as the applicable process for registration as a designated caregiver (NCSL, 2017). In some jurisdictions, the MMP allows an

employee of a hospice provider or nursing or medical facility, or a visiting nurse, personal care attendant, or home health aide to act as a designated caregiver for the administration of medical marijuana (NCSL, 2017).

As Table 2 demonstrates, jurisdictional legislation regarding cannabis is an ever-evolving process. This summary is current as of June 2018.

TABLE 2

Cannabis Legislation Through June 2018

Type of Provision	Jurisdictions
MMP	AK, AR, AZ, CA, CO, CT, DC, DE, FL, HI, IL, LA*, MA, MD, ME, MI, MN, MT, ND, NH, NJ, NM, NV, NY, OH, OR, PA, RI, VT, WA, WV
Allow cannabidiol products (often for intractable seizures; often the use is restricted to clinical studies)	AL, GA, IA, IN, KY, MO, MS, NC, OK, SC, TN, TX, UT, VA, WI, WY
Allow APRNs to certify a qualifying condition referred to in medical marijuana statute	HI, ME, MA, MN, NH, NY, VT, WA
No cannabis statutes	ID, KS, NE, SD
Recreational use of cannabis	AK, CA, CO, DC, MA, ME, NV, OR, VT, WA

Note. MMP = Medical Marijuana Program; APRN = advanced practice registered nurse.

* Louisiana lacks the necessary infrastructure to enact its MMP and the state's previous statutory language failed to grant necessary protections to physicians and users. Legislators have yet to decide who will be the legal cultivators for the state and how to regulate pharmacies that will distribute medical cannabis.

Many qualifying conditions (see Table 3) were likely included in MMPs because of promising preclinical research. Some qualifying conditions are likely included only because of symptoms they share with better-studied conditions. A few broad qualifying conditions/symptoms, notably chronic pain, neuropathies, and nausea/vomiting, are the most researched and commonly associated with medical cannabis.

TABLE 3

Most Common Qualifying Conditions

Although there are 57 qualifying conditions included among the different jurisdictional laws, the most common qualifying conditions across all MMPs are:

- ALS
- Alzheimer's disease
- Arthritis
- Cachexia
- Cancer
- Crohn's disease and other irritable bowel syndromes
- Epilepsy/seizures
- Glaucoma
- Hepatitis C
- HIV/AIDS
- Nausea
- Neuropathies
- Pain
- Parkinson's disease
- Persistent muscle spasms (including multiple sclerosis)
- Posttraumatic stress disorder
- Sickle cell disease
- Terminal illness

Registered medical marijuana patients in two states cite chronic pain as the primary condition they are treating (81% of Arizona patients and 23% of New Jersey patients) (Arizona Department of Health Services, 2016; New Jersey Department of Health, 2016). In Colorado, 93% of patients report pain, regardless of whether it is the primary condition being treated (Colorado Department of Public Health & Environment, 2016).

Literature Review

There are many reports and reviews of the medical cannabis literature. The National Academy of Sciences (National Academies, 2017) and the World Health Organization (WHO; Madras, 2015) published the two most prominent and thorough reports. The former relies heavily on published high-quality meta-analyses, particularly that of Whiting and colleagues (2015).

The National Academy of Sciences determined that there is conclusive or substantial evidence that cannabis or cannabinoids are effective for the treatment of chronic pain, chemotherapy-induced nausea and vomiting, and spasticity due to multiple sclerosis (MS). It also reported evidence exists to support the conclusion that cannabis is effective for "improving short-term sleep outcomes

in individuals with sleep disturbance associated with obstructive sleep apnea syndrome, fibromyalgia, chronic pain, and multiple sclerosis" (National Academies, 2017).

The reports published by the National Academy of Sciences and WHO broadly addressed the evidence for the effectiveness of medical cannabis. However, these two reports did not highlight material immediately useful for practicing health care workers, such as dosage, administration, drug interactions, jurisdiction statutes, and evidence supporting jurisdictional qualifying conditions. Without a nuanced examination of the studies that comprise, or were omitted from, the meta-analyses, details relevant to the care of patients with medical cannabis may be overlooked.

Gaps in Comprehensive Reviews

All analyses and reviews have limitations that may include their stated goals, search terms, search resources, and other methodology (Berlin & Golub, 2014). This report combines a systematic search of the literature using a grading methodology with the intent of summarizing the existing evidence for the current qualifying conditions spread across jurisdictions. The methodology adopted for this report aims to avoid the limitations of previous reviews and compile evidence for legally permissible uses of medical cannabis. One example of a limitation is the grouping or collapsing of terminology regarding psychoses. In the cannabis literature, "psychosis" is frequently applied as an umbrella term to include any of the following, together or separately: psychotic episodes, mania, paranoia, schizophrenia, bipolar disorder, and suicidal ideation (National Academies, 2017). Using "psychosis" in such a general manner reduces the ability to make meaningful conclusions and more often results in improper phrasing of conclusions. This imprecise word choice can impart an effect that is not borne out by the research, but feeds the growing body of anecdotal information and misinformation (de Graaf, 2017; Moffat, Jenkins, & Johnson, 2013). Care is taken in this review to explicitly differentiate between causative, correlative, suggestive, conclusive, insufficient, and mixed evidence.

Therapeutic Effects of Cannabis (Literature last updated February 2018)

This review of the literature began by searching all scholarly articles related to cannabis and its derivatives and the qualifying conditions listed by jurisdictions. This search used medical and scientific as well as gray literature sources (sources outside of traditional academic publishing). The first step identified the most recent and most cited meta-analyses and systematic reviews. The identified citations were reviewed and graded. Citations were reviewed in this manner for every article read until the literature had been exhausted. Additional searches in PubMed and the gray literature were carried out using terms relating to qualifying conditions, common symptoms related to qualifying conditions, and words related to cannabis. Recent reviews and meta-analyses provided a reliable network of cited articles that constitute the core literature. After amassing citations, randomized placebo-controlled studies became the focus for review. These studies are the most likely to elucidate causality in treatments and are the only trusted source of evidence for clinical interventions.

Each study was evaluated using the GRADE scale (Cochrane Methods Bias, n.d.; "What is GRADE?," 2012), a tool for assessing the quality of evidence, elucidating high, moderate, low, and very low evidence quality. All randomized experimental studies are initially rated as high quality; observational studies began at low-quality rating (and thus do not meet the qualifications for inclusion in this review). In this assessment, a study loses quality if it has serious risk of bias (from improper blinding of subjects and assessors, nonrandom sorting, patient dropout), confounding factors, imprecision, or inconsistency. Studies gain quality if the data show a large effect or dosage effect, or the study adequately controlled confounding factors. See Appendix B, Quality Research, Evidence of Effectiveness of Medical Cannabis presenting moderate-to high-quality data asserting a positive effect of Cannabis.

Clinical evidence supporting cannabis for medical conditions

In general, there is a dearth of randomized clinical trials that compare the effect of cannabis and cannabinoids against other standard medications with clinically proven efficacy and regular use in clinical practice. When and if cannabis/cannabinoids show therapeutic effects, practitioners using evidence-based practice should not consider cannabis as a first- or second-line treatment (Martín-Sánchez, Furukawa, Taylor, & Martin, 2009). When cannabinoids have been compared to standard first-line medical treatments for pain, nausea, and cachexia, cannabinoids underperform against megestrol acetate (Timpone et al., 1997), ondansetron (Meiri et al., 2007; Söderpalm, Schuster, & de Wit, 2001), and dihydrocodeine (Frank, Serpell, Hughes, Matthews, & Kapur, 2008) and show effects comparable to tramadol and pregabalin (Rog, Nurmikko, Friede, & Young, 2005) (see Appendix B). Along with the small number of clinical trials, cannabis also carries its own set of adverse effects that must be carefully considered, monitored, and recorded (See "Adverse Effects of Cannabis" below). More important is the possibility that patients may forego effective standard medications in favor of cannabis (Abrams, 2016; Pergam et al., 2017). Therefore, the use of cannabis and cannabinoids is best considered for patients who could benefit from complementary use or when currently accepted first- and second-line medications or therapies show no or insufficient effect or demonstrate dangerous adverse events in selected patients (Aggarwal, 2016; Finnerup et al., 2015; Strouse, 2016).

From this review, as indicated in Appendix B, moderate- to high-quality evidence is available for effective treatment with cannabis for the following conditions:

- Cachexia
- Chemotherapy-induced nausea and vomiting
- Pain (resulting from cancer or rheumatoid arthritis)
- Chronic pain (resulting from fibromyalgia)
- Neuropathies (resulting from HIV/AIDS, MS, or diabetes)
- Spasticity (from MS or spinal cord injury)

However, 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 Appendix B.

The literature review also identified three conditions, included in Appendix B, that are supported by a single moderate- to high-quality clinical study:

- Reduction of seizure frequency (Dravet syndrome and Lennox-Gastaut syndrome)
- Reduction of posttraumatic stress disorder (PTSD) nightmares
- Improvement in tics (Tourette syndrome)

The conditions listed above require additional study to verify the findings of the current studies. This report separates the treatment populations involved in the two epilepsy studies. The evidence for CBD as an efficacious add-on therapy is specific to the treatment groups and as such does not represent high-quality evidence for CBD as an effective treatment. The FDA is currently investigating Epidiolex, the specific formulation of CBD used in the two seizure studies, and has approved the formulation for individual Investigational New Drug exemptions ("GW's Epidiolex® Clinical Program," 2018).

A large number of anecdotal studies and news reports fuel interest in using cannabis for the treatment of PTSD symptoms (Gutierrez & Dubert, 2017) and severe epilepsy ("Medical Marijuana and Epilepsy," 2017). Many states have implemented cannabis laws expressly for the treatment of epilepsy with CBD (NCSL, 2017). Despite the legislative landscape regarding CBD and epilepsy, more studies are needed to accurately assess the safety and efficacy of cannabis for the treatment of intractable seizures. The American Academy of Pediatrics (Campbell, Phillips, & Manasco, 2017) and the American Epilepsy Society (Filloux, 2015) have made similar calls for further research.

Improvements in other symptomology might be attributed to the more general effects of cannabis—sedation, appetite stimulation and euphoria. Instead of cannabis treating underlying symptoms, these three general effects of cannabis may mask symptoms and increase a subjective sense of well-being, which could improve self-reported quality of life in some patients (Fox, Bain, Glickman, Carroll, & Zajicek, 2004; Greenberg et al., 1994).

Qualifying Conditions Without Clinical Evidence

Medical cannabis legislation includes a wide variety of qualifying conditions, some which have some scientifically supportable efficacy for symptomology, and some conditions in which there is no clinical evidence of effectiveness (see Table 4). MMP qualifying conditions are not held to the same rigor as FDA standards for safety and efficacy. The process for inclusion in a list of qualifying conditions is variable and often not dependent on the literature.

TABLE 4

Qualifying Conditions Without Clinical Evidence

Qualifying Conditions Without Cannabis Therapeutic Clinical Evidence	Shared Symptom With an Evidence-Based Qualifying Condition
Painful peripheral neuropathy, spinal cord injury, spinal cord diseases (arachnoiditis, Tarlov cysts, hydromyelia), neurofibromatosis, chronic inflammatory demyelinating polyneuropathy, causalgia, Arnold-Chiari malformation, syringomyelia, complex regional pain syndrome, chronic radiculopathy	Neuropathy
Residual limb pain, Sjogren's syndrome, interstitial cystitis, fibrous dysplasia, fibromyalgia, post laminectomy syndrome, sickle cell disease, arthritis, severe psoriasis, psoriatic arthritis	Pain
Intractable skeletal muscular spasticity, spastic quadriplegia, Tourette's syndrome, spinocerebellar ataxia, muscular dystrophy, dystonia, cerebral palsy, Parkinson's disease	Spasticity
Chronic traumatic encephalopathy, myoclonus	Seizures

Qualifying Conditions Without Cannabis Therapeutic Clinical Evidence	Shared Symptom With an Evidence-Based Qualifying Condition
	(continued)
Cystic fibrosis, anorexia	Wasting
Chronic pancreatitis	Nausea and vomiting
Nail-patella syndrome	Intraocular pressure (similar to glaucoma, which is not supported by quality evidence)
Huntington's disease, post-concussion syndrome, myasthenia gravis, lupus, hydrocephalus, mitochondrial disease, autism, decompensated cirrhosis, ulcerative colitis, migraine, Alzheimer's disease, amyotrophic lateral sclerosis	Diseases with multiple shared/similar symptoms

A review of all jurisdictional legislation indicates that, of the 31 jurisdictions with some legalized form of cannabis or cannabinoids, just eight cited medical studies in their statutes (Arizona, California, Delaware, Illinois, Maryland, New Hampshire, New Jersey, Rhode Island) (NCSL, 2017). The only document referenced by Illinois, Maryland, New Hampshire, New Jersey, and Rhode Island was the report published by the Institute of Medicine in 1999 (Joy, Watson, & Benson, 1999). Arizona, California, and Delaware cited one study each in addition to the Institute of Medicine report. For Arizona and Delaware, the studies were related to substance abuse (NCSL, 2017); California cited the collected works of the Center for Medicinal Cannabis Research, which was established by the state of California and is currently operating out of the University of California, San Diego (NCSL, 2017).

Grouping the current qualifying conditions by evidence is difficult. Many qualifying conditions are present in current legislation because they share symptoms with qualifying conditions that do have some scientific evidence. Table 4 highlights qualifying conditions that do not have any scientific evidence to support treatment with cannabis. Cannabis use for conditions without scientific evidence requires serious consideration on the practitioner's part, as cannabis use may exacerbate the condition's symptomology.

Qualifying conditions included in MMP statutes may be justified with human clinical evidence, preclinical animal or cellular studies, or no study at all (Madras, 2015; Maust, Bonar, Ilgen, Blow, & Kales, 2016). Practitioners must recognize and differentiate between quality human scientific evidence (Appendix B) and preclinical animal or cellular studies. For example, neurodegenerative conditions and those relating to brain trauma, which are included in some jurisdictional qualifying conditions, may be included due to animal or cellular research as well as observational studies (Mechoulam, Panikashvili, & Shohami, 2002).

No human studies have confirmed evidence for neuroprotective, anti-inflammatory, antitumoral, and antibacterial effects of cannabinoids. Some preclinical animal and cellular studies do provide evidence for those effects (Russo, 2011); however, no generalizations can be made to the human population. These studies are largely suggestive for future research.

The FDA recently issued warning letters to four companies for marketing unsubstantiated claims regarding preventing, reversing, or curing cancer; killing/inhibiting cancer cells or tumors; or other similar anticancer claims (U.S. Food & Drug Administration [FDA], November 1, 2017).

Effects of Cannabis That May Influence Treatment Decisions

Some studies reviewed for this report are not identified as top-quality research, due to a study's multiple measures, and others because they fall outside the scope of qualifying conditions. However, several studies still reveal some medical relevance and important considerations for nurses caring for cannabis-using patients.

Physiologic Effects of Cannabis

The treatment of certain symptomology with cannabis might be attributed to the more general and well-known effects of cannabis—sedation, appetite stimulation, and euphoria—which may contribute to a subjective sense of well-being instead of cannabis treating underlying symptoms (Joy et al., 1999). This increase in the subjective sense of well-being could improve self-reported quality of life in patients who have difficulty sleeping, chronic pain, and poor appetite (Fox et al., 2004; Wade, Makela, Robson, House, & Bateman, 2004).

A few studies have attempted to demonstrate the efficacy of these general effects as a treatment for neurodegenerative behavioral disturbances and MS sleep disturbances. For diseases that cause irritability and agitation, cannabis is suggested as a method of reducing aggressiveness in patients with inhibited mental function (i.e., Alzheimer's disease, autism, Huntington's disease) (Curtis & Rickards, 2006; Krishnan, Cairns, & Howard, 2009). However, a study of patients with dementia contradicts this claim by demonstrating that THC had no effect on objective scores of agitation, aggression, aberrant motor behavior, or other behavioral disturbances (van Den Elsen et al., 2015). It is clear that the sedative effect of cannabis is not applicable to every condition.

Studies in MS patients indicate THC use may also cause indirect behavioral benefits in the subjective improvement in quality of sleep and a reduction in sleep disturbances (Langford et al., 2013; Rog et al., 2005; Wade et al., 2004). Many of the subjective effects of cannabis are likely attributable to the associated euphoria, which can result in patients being less bothered by their symptoms, even when cannabis does not statistically ameliorate other specific symptomology. This subjective feeling of improvement and less bothersome symptoms may be highly desirable, especially in terms of compassionate care.

Adjunctive Use of Cannabis With Opiates, Antidepressants, and Benzodiazepines

Among cannabis-naive people (individuals with no or limited exposure to cannabis) who began medical cannabis, data revealed a decrease in weekly use across all medication classes, including reductions in use of opiates (–42.88%), antidepressants (–17.64%), mood stabilizers (–33.33%), and benzodiazepines (–38.89%) (Gruber et al., 2016). T-tests of this dataset indicated trends toward, but not attainment of, significant reductions in opiate and antidepressant use. A similar retrospective survey (Boehnke, Litinas, & Clauw, 2016) showed that medical cannabis use was associated with a self-reported decrease in opioid use (64% average change), decreased number and adverse effects of medications, and an improved quality of life. These results are applicable to patients on a daily regimen of multiple doses (25% use it two times, 42% use it three to four times, and 20% use it more than five times, but no dosage is given). The authors also show a reported decrease in the use of NSAIDs (from 62% to 21%), antidepressants (from 39% to 14%), and selective serotonin reuptake inhibitors (from 38% to 22%). More research is necessary to validate these correlational results.

Cannabis use is correlated with better outcomes for individuals with opioid addiction. The severity of opioid withdrawal was lower when patients used dronabinol, and this same research found a higher retention in naltrexone treatment for heroin addiction for cannabis users (Bisaga et al., 2015). A recent study showed that the legalization of medical marijuana was associated with substantial decreases in alcohol use and binge drinking among young adults (Anderson, Hansen, & Rees, 2013) and states with medical cannabis have a 24.8% lower mean annual opioid overdose mortality rate (Bachhuber, Saloner, Cunningham, & Barry, 2014). These data have spurred suggestions that cannabis may be able to serve as an exit drug and reduce the harmful use of other substances (Lucas et al., 2013; Mikuriya, 2004; Reiman, 2009). Currently, this evidence is only correlational and no studies show sufficient causal evidence for cannabis as a treatment for opioid addiction or as a substitute for opioids (Walsh et al., 2017).

Neurologic Symptoms

Studies included in Appendix B demonstrate a narrow focus regarding the cannabinoid preparation administered to patients. However, the study by Wade, Robson, House, Makela, and Aram (2003) is important for its active comparison of three formulations of cannabinoid sprays (THC:CBD, THC, and CBD at 2.5mg to 120mg/day) for patients with a neurologic diagnosis. Patients included in this study presented stable symptoms that were unresponsive to standard treatments. These symptoms included neuropathic pain, spasticity, muscle spasms, impaired bladder control, and tremor. The subjective measures showed that THC spray improved scores of pain, spasm, spasm severity and frequency, and appetite; CBD spray improved pain; THC:CBD spray improved spasm severity and frequency and improved sleep. This study suggests that the various cannabinoids have differential effects on neurologic symptoms.

Subjective Measures vs Objective Measures for Spasticity and Pain

Patient reports of improvement by subjective measures are the dominant type of measures used in cannabis studies (Appendix B). The Visual Analog Scale and the Numeric Rating Scale are the measurements used most often. These scales are well established and are used for clinical trials of analgesics. However, objective measures, when appropriate, are seldom used in studies. For some conditions, the focus on subjective measures can lead to possible misrepresentation of the drug's effect on symptomology (Fox et al., 2004; Joy et al., 1999).

Patients on active cannabis treatment, because of placebo effects and the euphoria elicited by cannabis, often report improvements even when no objective improvement is detected. Fox, Bain, Glickman, Carroll, & Zajicek (2004) attempted to detect objective improvement in patients with MS. In this particular study, patients took tablets of THC and the assessors used a tremor index and noted that while patients reported improvements in spasms, there was no statistical improvement on the tremor index (Fox et al., 2004).

Only one other study, carried out by Greenberg and collaborators (1994), utilized objective measures for the primary endpoint of spasticity improvement among MS patients. Patients were given a single dose of smoked cannabis (1.54% THC) and then tested on a dynamic posturographic platform. After administration, tracking errors were higher for MS patients compared to healthy volunteers, and response speed of the patients was lower. The researchers concluded that smoked cannabis worsens posture and balance in MS patients. However, "patients often had the subjective feeling that they were clinically improved, yet postural responses of both normal subjects and patients were adversely affected" (Greenberg et al., 1994).

Cooper, Comer, and Haney (2013) conducted a moderate-quality study that demonstrated significant effects of cannabis and dronabinol on pain sensitivity and tolerance—providing a different perspective on analgesia by use of cannabis. Using the cold pressor test, the researchers found that cannabis and dronabinol decreased pain sensitivity (with 3.56% THC; 20mg), increased pain tolerance (with 1.98% THC; 20mg), and decreased subjective ratings of pain intensity (with 1.98% and 3.56%THC; 20mg). Both cannabis and dronabinol significantly increased the latency to report pain, while dronabinol produced longer-lasting efficacy. The authors concluded that the comparative effects and additional benefit of more lasting efficacy signaled that dronabinol should be used over smoked cannabis. Dronabinol also elicits a significantly lower "good drug effect" (a subjective enjoyment of the drug effects) than cannabis, suggesting that dronabinol may be less likely to be abused than cannabis (Cooper, Comer, & Haney, 2013).

Adverse Effects of Cannabis

Much of the information in this section is well known in the scientific literature and by health professionals (Joy et al., 1999). Although largely noncontroversial, some results cited are not conclusive and other effects are more probable than proven (Collin et al., 2010). Although preclinical studies cannot simply be translated to practice, potential risks to the patient, however tenuous, should be considered. The following is not an exhaustive list or enumeration of adverse effects but is a collection of effects self-reported during clinical studies, listed in reviews and observational studies, and reported by users.

Described Adverse Effects of Major Cannabinoids

General adverse effects of THC include increased heart rate, increased appetite, sleepiness, dizziness, decreased blood pressure, dry mouth/dry eyes, decreased urination, hallucination, paranoia, anxiety, and impaired attention, memory, and psychomotor performance (FDA, 2004).

Federal limits on cannabis research prevent an adequate description of CBD-only product adverse effects. Since no large-scale studies on the adverse effects of CBD have been completed, any description of CBD adverse effects in a specific population cannot be generalized. A moderate- to high-quality study involving adults with schizophrenia and CBD use reported sedative effects (Hallak et al., 2010). In a separate study of adolescents with epilepsy using CBD, "diarrhea, vomiting, fatigue, pyrexia, somnolence, and abnormal results on liver-function tests" were reported (Devinsky et al., 2017).

The adverse effects of cannabis reported by some participants across the studies in Appendix B include fatigue, nausea, asthenia, vertigo (Collin et al., 2010), and suicidal ideation (National Academies, 2017). The risk of suicide and cannabis use is a contentious area of study. Current findings are contradictory and more research is needed to confirm any association between cannabis use and suicide risk while controlling for numerous confounding variables (Walsh et al., 2017). Individuals with a greater risk of psychological disturbances and suicidal ideation should take precautions when utilizing cannabis as a therapeutic (Wilkinson, Radhakrishnan, & D'Souza, 2014).

Specific patient groups

Adolescence. Many studies show a correlation between cannabis use and poor grades, high drop-out rates, lower income, lower percentage of college degree completion, greater need for economic assistance, unemployment, and use of other drugs (Crean, Crane, & Mason, 2011; Madras, 2015). These trends are related to recreational rather than medicinal cannabis use, but multiple confounding factors that may drive these correlations cannot be ignored in a clinical context, especially when clinicians are authorizing the use of compounds that can be abused.

- Users with persistent cannabis dependence showed greater IQ decline than those who never used cannabis. This decline is greatest in users who began using during adolescence (Meier et al., 2012). Early-onset cannabis users show greater structural differences in critical brain regions relating to memory and show a weakened ability to learn (Schuster, Hoeppner, Evins, & Gilman, 2016).
- In young (approximately age 20 and older), educated chronic users, decrements in the ability to learn and remember new information and impairment of verbal recall as well as visual recognition may occur (Schoeler, Kambeitz, Behlke, Murray, & Bhattacharyya, 2016).
- Structurally, adults who smoke cannabis regularly during adolescence have impaired neural connectivity involved in functions that require a high degree of integration (e.g., alertness and self-conscious awareness) and learning and memory (Smith et al., 2015; Yücel et al., 2008).

Fertility. No human studies are available; however, two preclinical studies indicate that interference with endogenous cannabinoids might increase chances of failed embryo implantation (Park, McPartland, & Glass, 2004) and cannabinoids are capable of deregulating spermatogenesis, leading to reduced fertility or infertility (Di Giacomo, De Domenico, Sette, Geremia, & Grimaldi, 2016). These same cannabinoids may even alter sperm function (du Plessis, Agarwal, & Syriac, 2015).

Pregnancy and neonates. The meta-analysis conducted by Gunn and colleagues (2016) indicates that exposure to cannabis in utero is associated with an increased risk of decreased birthweight and higher odds of the newborn being placed in a neonatal intensive care unit. The pooled dataset also showed a greater risk of anemia in mothers who had used cannabis during pregnancy. Only one preclinical study assessed the signaling pathways affected by prenatal THC exposure. This preclinical study shows that early exposure in utero disrupts endocannabinoid signaling and results in noticeable rewiring of mice fetal cortical circuitry (Tortoriello et al., 2014).

Presently, there are no reliable data for neurodevelopmental outcomes with early exposure to cannabis in neonatal life, through either breastfeeding or secondhand inhalation (Jaques et al., 2014; Jutras-Aswad, DiNieri, Harkany, & Hurd, 2009; Volkow, Baler, Compton, & Weiss, 2014). THC can be detected in breast milk shortly after use; however, the effects of THC in breast milk on neonatal development and neurologic function is currently unknown (Baker et al., 2018). A number of low-quality observational studies attempted to elucidate patterns of use and developmental outcomes, but their methods were imprecise or lacked longitudinal evaluation (cited in Gunn et al., 2016)

Immunocompromised patients. Cannabis and cannabinoid preparations (gels, tinctures, drops, sprays) can pose a serious risk to immunocompromised patients if not prepared in a sterile environment (National Academies, 2017; Thompson et al., 2017). Many jurisdictions require laboratory testing of cannabis for contaminants (Rough, 2017). The local Department of Health or MMP will provide more information on the quality-assurance practices in a specific jurisdiction.

Dyskinesis. It is highly likely that cannabis will exacerbate symptoms of poor balance and posture in patients with dyskinetic disorders (Greenberg et al., 1994; GW Pharmaceuticals, 2015).

Altered cognition. Research regarding cognitive deficits is more abundant in healthy adult participants. Insufficient evidence exists for cognitive effects in individuals with conditions that already may affect cognition (Weier & Hall, 2017). The research that does exist suggests that patients who suffer from diseases with neurologic symptomology may show greater cognitive impairment (reviewed in Walsh et al., 2017). This exacerbation of symptoms may decrease the overall effectiveness of cannabis as a therapeutic in such patients (Koppel et al., 2014). Clinical studies have shown that patients with MS who smoke cannabis at least once a month show an increase in cognitive impairment and are twice as likely to be classified as globally cognitively impaired as those who do not use cannabis (Koppel et al., 2014).

Cognitive impairment by cannabis may be dose- and age-dependent (Crean et al., 2011; Solowij & Pesa, 2012). Insufficient clinical data exist on the cognitive impairment of healthy children and adolescents.

Mania and predisposition to mania. There is a significant relationship between cannabis use and subsequent exacerbation and onset of bipolar disorder manic symptoms, with a roughly threefold increased risk of new onset of manic symptoms (Gibbs et al., 2015). Individuals with bipolar disorder and a cannabis use disorder also have an increased risk (odds ratio = 1.44) of suicide attempts (Carrà, Bartoli, Crocamo, Brady, & Clerici, 2014). However, these findings are not conclusive for causality.

The observed correlation of cannabis use that precedes or coincides with the manic symptoms of bipolar disorder, as well as the association between cannabis use and new-onset manic symptoms and depressive disorders, suggests a tentative causal influence of cannabis on the development of bipolar disorder symptoms (Baethge et al., 2008; Lev-Ran et al., 2014).

Schizophrenia. While accumulating evidence suggests a link between cannabis exposure and schizophrenia, no research exists that can conclude that cannabis use causes schizophrenia (Walsh et al., 2017). Research supports a correlation between cannabis abuse and significantly more and earlier psychotic relapses among schizophrenic patients (Linszen, Dingemans, & Lenior, 1994). The literature on cannabis and schizophrenia is scant and spread across low-quality studies and morphologic studies, but a comprehensive overview of cannabis and psychosis, schizophrenia, and schizophreniform disorder can be found in Wilkinson, Radhakrishnan, and D'Souza (2014).

Preliminary evidence suggests cannabis use is associated with an earlier age of onset for schizophrenia among predisposed male patients by an average of 2.7 years (Large, Sharma, Compton, Slade, & Nielssen, 2011). Some propose that individuals predisposed to schizophrenia will experience their first schizophrenic episode earlier if cannabis is used daily in the prodromal phase (Large et al., 2011; Walsh et al., 2017). Cumulative cannabis exposure is associated with an increased rate of onset of psychosis (Kelley et al., 2016).

Preexisting conditions. Individuals with asthma, bronchitis, emphysema, or any pulmonary disease should not use inhaled cannabis (Hall & Solowij, 1998; Tashkin, 2013); patients with heart problems, alcohol and other drug dependence, or illnesses that may be exacerbated by cannabis use should not use cannabis (FDA, 2004). Anyone with severe diseases of the liver or kidneys should also take special precaution that the metabolic breakdown of cannabinoids does not worsen their conditions (Ishida et al., 2008; Parfieniuk & Flisiak, 2008).

In patients who suffer from seizures, high concentrations of THC may promote seizures (Katona, 2015; Rosenberg, Tsien, Whalley, & Devinsky, 2015).

Additionally, individuals with a history of suicide attempt or who are at risk for suicide and those with schizophrenia, bipolar disorder, or other psychotic condition should be informed about the risks of cannabis use and be advised to not use cannabis. Individuals with PTSD may experience distinct adverse outcomes if they also develop cannabis use disorder and should be monitored closely (Walsh et al., 2017).

Overdose, abuse, dependence, and withdrawal

Overdose. Cannabinoid receptors are effectively absent in the brainstem cardiorespiratory centers (Glass, Faull, & Dragunow, 1997). This is believed to preclude the possibility of a fatal overdose from cannabinoid intake. References to overdose in cannabis research relate to situations in which patients have higher than normal blood concentrations of cannabinoids, usually from overconsumption of edible THC products (Cao, Srisuma, Bronstein, & Hoyte, 2016). These increased concentrations cause prolonged and often debilitating psychoses or hyperemesis syndrome. In some cases, these adverse effects can possibly increase the risk of fatalities (Calabria, Degenhardt, Hall, & Lynskey, 2010), although overdose of cannabinoids alone has not been proven to cause fatalities.

Induced psychosis. Substance-induced psychosis (SIP) is characterized by hallucinations, paranoia, delusions, confusion, and disorientation (American Psychiatric Association, 2013). SIP most frequently results from the ingestion of large doses of THC, which results in SIP episodes that are typically acute and resolve relatively faster than schizophrenic psychotic episodes; therefore, SIP is not diagnostically similar to schizophrenia (Wilkinson et al., 2014).

Cannabis use disorder. Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the *Diagnostic and Statistical Manual of Mental Disorders,* 5th Edition (*DSM-5*; American Psychiatric Association, 2013). Long-term cannabis use has the potential to lead to addiction, especially in individuals who are predisposed to addiction; approximately 9% of individuals who try cannabis are at risk for addiction (Lopez-Quintero et al., 2011). This percentage increases to roughly 16% among adult users with a history of adolescent cannabis use and to 25% to 50% among adults who use daily (Caldeira, Arria, O'Grady, Vincent, & Wish, 2008; Hall & Solowij, 1998). Cannabis users who began using in adolescence are approximately two to four times more likely to have symptoms of dependence within 2 years of their initial use when compared to users who started using cannabis as adults (Chen, Storr, & Anthony, 2009). Individuals with persistent negative emotions and psychological distress have a higher risk of abusing cannabis (Moitra, Christopher, Anderson, & Stein, 2015). The reason for this association is not clear, but Moitra, Christopher, Anderson, and Stein assert it is possible that individuals use cannabis as a method of coping with or self-medicating psychological distress. Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the *DSM-5*.

Special concern exists for individuals who use cannabis to treat symptoms of PTSD. Individuals with PTSD are three times more likely to utilize cannabis (Cougle, Bonn-Miller, Vujanovic, Zvolensky, & Hawkins, 2011) and those who develop cannabis dependence can experience heightened withdrawal symptoms, poorer cessation outcomes, and long-term reduction in the efficacy of traditional PTSD treatments (Walsh et al., 2017).

Hyperemesis. Cannabinoid hyperemesis syndrome is a clinical diagnosis typically seen in patients younger than age 50 with a long history of marijuana use (Lu & Agito, 2015). The presentation includes severe, cyclic nausea; vomiting; and compulsively taking extremely hot showers or baths. Other associated nonspecific symptoms are diaphoresis, bloating, abdominal discomfort, flushing, and weight loss. These symptoms are relieved with long, hot showers or baths and cessation of marijuana use (Lu & Agito, 2015).

Cannabis withdrawal syndrome. The average amount and duration of cannabis use required to establish dependence and withdrawal symptoms are poorly understood (Freeman & Winstock, 2015; Verweij et al., 2010). However, mild withdrawal symptoms have been reported in less than 7 days with a regimen of 20mg THC taken every 3 to 4 hours (Jones, Benowitz, & Herning, 1981). Withdrawal symptoms for cannabis include irritability, nervousness, sleeping difficulties, dysphoria, decreased appetite, restlessness, depressed mood, physical discomfort, strange and vivid dreams, craving, and anxiety (Hesse & Thylstrup, 2013). These symptoms can make cessation difficult (American Psychiatric Association, 2013).

Drug-drug interactions

Cannabinoids have the possibility of altering the metabolic breakdown of certain drugs (Stout & Cimino, 2014). Departures from normal drug metabolism can result in higher or lower than expected plasma levels, which can cause dangerous drug interactions (Lynch & Price, 2007). Information on possible interactions is available for the synthetic cannabinoids dronabinol and nabilone on the Drug Information Portal (National Institutes of Health, 2018). The interactions listed in the Drug Information Portal are not exhaustive and not directly transferable to nonsynthetic cannabinoids. However, many of the listed interactions (broadly reviewed in this section) are probable interactions, as there are not sufficient studies into cannabinoid-drug interactions. Melton (2017) provides an overview of drug interactions with cannabinoids.

Using biochemical information, Yamaori, Kushihara, Yamamoto, and Watanabe (2010) and Yamaori, Ebisawa, Okushima, Yamamoto, and Watanabe (2011) determined that cannabinoids, particularly CBD, competitively inhibit cytochrome P450 (CYP450) isoforms. This interaction could result in dangerous interactions with levodopa, sildenafil, fentanyl, and other drugs metabolized by CYP3A enzymes (specifically, CYP3A4, CYP3A5, and CYP3A7) as well as CYP1 enzymes (Yamaori et al., 2010; Yamaori et al., 2011).

THC also inhibits CYP1 enzymes in a competitive manner (Ogu & Maxa, 2000; Zanger & Schwab, 2013). Ogu and Maxa found that CBN, a metabolite of THC, is an effective inhibitor of CYP1A2 and CYP1B1. The authors warn that inhibition of CYP1 enzymes could result in drug interactions with caffeine, clozapine, warfarin, and other drugs. One of the high-quality studies in Appendix B lists specific concerns for concomitant use of CBD with common antiepileptic drugs. CBD increases concentrations of the active metabolite of clobazam through inhibition of CYP2C19, which likely caused some adverse effects in the study population (Thiele et al., 2018). The same authors noted an increase in transaminase levels in patients using CBD and valproate (Thiele et al., 2018).

THC, CBD, and CBN are all present in raw cannabis. Pyrolysis (high temperature heating) is often required to create substantial amounts of the active cannabinoids THC and CBD, but endogenous enzymes are capable of forming active cannabinoids in stored cannabis (Mechoulam & Burstein, 1973). Many formulations of synthetic and isolated cannabinoids contain THC, CBD, or a combination of the two. Drugs that contain THC and synthetic analogues include dronabinol, nabilone, and nabiximols. CBD is present in nabiximols and Epidiolex. CBN and other cannabinoids may or may not be present in cannabis extracts, depending on manufacturer specifications and specific production methods (Omar, Olivares, Alzaga, & Etxebarria, 2013; Webster & Sarna, 2002).

Nurses must be aware that nonpharmaceutical preparations (including, but not limited to, tinctures, edibles, and raw cannabis) may contain any or none of the cannabinoids listed in this section. Whenever possible, patients should use products with laboratory-confirmed and listed concentrations of cannabinoids.

Methods of Administration

While patients may choose to use any of the following methods of administration, note that the amount of cannabis, onset, and total impact of the effects will vary with each method of administration. In addition, no randomized control studies have sufficiently compared drug activity based on the administration method.

The studies listed in Appendix B show that the most studied methods of administering medical cannabis are smoking and oromucosal sprays. Insufficient evidence exists for vaporized cannabis, edibles, dabbing (superheated vaporization of oils or waxy extracts of cannabis), and other routes of delivery. However, the FDA-approved cannabinoids (dronabinol and nabilone) are administered orally or by an oromucosal route.

Oral administration has delayed effects (Grotenhermen, 2003). Additionally, there is inconsistent absorption into the bloodstream because cannabinoids are hydrophobic. This effect may have benefits for patients wishing to control symptoms over a longer period of time than what can be achieved with a comparable dose via inhalation and oromucosal delivery (Grotenhermen, 2003).

Sublingual and mucosal sprays have a benefit of directly accessing the bloodstream; as a result, oromucosal doses have less dosage variability than smoked cannabis and edibles, but are limited by slower absorption and lower rate of THC delivery to the brain (Karschner et al., 2011). This means that oromucosal routes may be less effective for conditions that require high doses of THC to alleviate chronic symptoms with rapid acute onset.

Smoked and vaporized cannabis has the advantage of rapid absorption into the bloodstream (Grotenhermen, 2003). Vaporization creates fewer pyrolytic compounds that irritate respiratory tissue (Hazekamp, Ruhaak, Zuurman, van Gerven, & Verpoorte, 2006). However, both methods show significant loss of active compounds, with 40% to 46% of THC lost to combustion and an average 35% of THC directly exhaled (Hazekamp et al., 2006; Herning, Hooker, & Jones, 1986).

Butane honey oil (or other oils used for dabbing) (Stockburger, 2016), hashish, and other extracted resins often carry solvent impurities, especially when manufactured by nonprofessionals. Dabbing is a method of superheating small concentrations of cannabis resins on a small metal heating element to produce a vapor for inhalation. Combustion of these products is likely to deliver "significant amounts of toxic degradation products" and these concerns are extended to e-cigarettes that use a similar heating element (Meehan-Atrash, Luo, & Strongin, 2017). These administration methods and formulations should not be considered for medical applications (Stockburger, 2016).

The use of suppositories, injection, transdermal patches, and topical application for the administration of cannabis extracts and cannabinoids has not been studied in a clinical setting (Grotenhermen, 2003).

Dosing Considerations

The only FDA-approved dosing guidelines for cannabinoids are for the drugs dronabinol and nabilone. These two formulations are synthetically derived THC. A consistent trend in dosage can be seen across studies (Appendix B). Dosages start at 2.5mg, with 15mg THC established as effective for chemotherapy-induced nausea. Dosages between 2.5mg and 10mg typically show tolerable adverse effects, such as dry mouth and psychoactivity (Whiting et al., 2015). FDA-approved nabilone and dronabinol are the only cannabinoids available through prescription, which can be dispensed through a pharmacist and may be covered by some insurance providers. The FDA provides information about dosages, indications, and interactions of these drugs on their Dockets Management website (FDA, 2004, 2006, August 2017).

Since cannabis cannot be prescribed and therefore authorizing practitioners cannot provide the patient with a specific dosage, dosing schedule, or recommended delivery method, many health care practitioners feel unprepared to educate patients, resulting in practitioners deferring to dispensary staff as the cannabis subject experts (Kondrad & Reid, 2013; Rubin, 2017). It is the patient who will decide on which dispensary to utilize, and the specifics of administration, formulations, and dosages will be available at licensed dispensaries. However, dispensaries vary widely in their product quality, laboratory testing, proper and accurate product labeling, and employee expertise (Haug et al., 2016; Vandrey et al., 2015). A recent analysis of 31 companies selling CBD products found that only about 31% of products were accurately labeled (Bonn-Miller et al., 2017). This same survey found that approximately 21% of products had nonnegligible amounts of other cannabinoids, including THC.

A recent survey showed that self-titration by the patient to the desired effect is the most common strategy for dosing (Hazekamp, Ware, Muller-Vahl, Abrams, & Grotenhermen, 2013). Kowal, Hazekamp, and Grotenhermen (2016) note that because of the large variation in patient responses to cannabis, patients will need to understand they must titrate their personal dosage and establish the minimum efficacious dose and a stable schedule over 1 to 2 weeks. Continual assessment of perceived efficacy and adverse effects is recommended. Full effects should be seen within 2 weeks; if there is no improvement of symptomatology within an additional 2 weeks, consideration of cessation is suggested. If adverse effects become problematic, cessation is warranted. A dosage diary, maintained by the patient or caregiver, can be helpful to keep track of dosages, administration methods, formulations, and scheduling.

As suggested in this report, numerous factors may alter the physiologic effects of cannabis in any given patient. Important considerations for usage and amount include the individual's age, health history, prior experience with cannabis, concurrent medications, the product's cannabinoid concentrations, method of administration, and timing of doses.

Typically, jurisdictions require renewal of medical marijuana registration every year (NCSL, 2017). Some also require certifying practitioners to register with the MMP annually (NCSL, 2017). Details about renewals are provided by the jurisdiction's Department of Health and/or MMP.

The Entourage Effect

The entourage effect is a frequently mentioned attribute of cannabis. The phrase refers to the large number of cannabinoids, flavonoids, and other compounds (such as terpenes/terpenoids, phenols, etc.) present in cannabis that show similar and possible synergistic effects (Russo, 2011).

Working under the assumption that the whole plant is greater than the sum of its parts, cannabis growers have been crossing plants to develop chemovars (chemical variations) that have differential effects. Different varieties are purported to be more "uplifting," or "relaxing" or increase appetite. Some dispensaries have begun listing and advertising various cannabinoid ratios and providing detailed terpene profiles in certain strains and products (Chen, 2017).

Despite advertising, no experimental study has investigated the claim of synergistic effects beyond preliminary work on THC:CBD formulations (Gupta, 2014). Since no clinical research has substantiated the entourage effect, this report cannot explicitly state that terpenes and other constituent compounds in cannabis in any way affect the therapeutic potential of cannabis (Health Canada, 2013).

Price Consideration

Across all the studies included in this report, beneficial effects of cannabis can only be derived from frequent and continued doses, which may be prohibitively expensive. In the Framework for Legalization in Canada (Health Canada, 2016), the authors noted that "[m]any patients cited the high costs they incur today in purchasing cannabis from licensed producers. … it is not uncommon for patients to spend hundreds or thousands of dollars each month in order to acquire a sufficient supply of cannabis." Study participants using nabilone at a 2mg daily dose could expect to pay over $4,000 (Canadian) for an annual supply in Canada. A list of the average cost of cannabinoids and whole cannabis is provided in Table 5.

TABLE 5

Cost of Cannabinoids (U.S. Dollars)*

Drug Name	Price Averages
Sativex	A vial with 15 sprays costs $22 dollars/vial. Average dose of 5 sprays per day yields $7/day and $51/week. This price was derived from the 2005 Patented Medicine Prices Review Board of Canada (www.pmprb-cepmb.gc.ca) report on Sativex. *Available in Canada. Not available in the United States (undergoing FDA FastTrack trials).*
Cesamet (nabilone) Schedule II Controlled Substance	~$2,000 for 50/1-mg capsules. Wide variance in effective dose per day (2mg to 10mg). Average dose of 2mg/day yields $80/day. *FDA approved. Not covered by Medicare.*
Marinol (dronabinol) Schedule III Controlled Substance	$140–$271.05 for 60/2.5-mg capsules, $150–$281.95 for 30/5-mg capsules, $500–$1,019.40 for 60/10-mg capsules. Average dose of 5mg–10mg/day yields $8–$16/day without insurance. *FDA approved. Covered by Medicare. Insurance may cover 3%–99% of costs.*
Medical cannabis	~$150–$200 for 28g as the low end of possible dispensary prices in the United States. (Colorado Department of Revenue, 2015; Hickey, 2014; "Is it Cheaper to Buy," 2016) A starting dose of 5% THC per cannabis cigarette and the goal of 2.5mg absorbed THC requires 0.60g–1g of cannabis per dose. For pain, this may require four or more doses per day. This regimen could result in $600/month for management of pain using smoked cannabis. Patient cultivation regulations may reduce this cost. (This price estimate is approximate for all products sold at U.S. medical dispensaries.)

*Price ranges collated from www.goodrx.com, www.webmd.com, and www.wellrx.com

Nursing Implications

Nurses need practical information to care for the increasing number of patients who utilize cannabis via an MMP as well as the larger population who self-administer cannabis as a treatment for various symptomatology or for recreational purposes. As noted previously, evidence for cannabis use in described conditions is limited by inadequate study and limited legal availability of cannabis for research purposes. Statutory authorization of cannabis use for certain conditions has been influenced by advocacy; as a result, some qualifying conditions are present in statutes without evidence of their effect. Regardless of existing evidence, individuals are using cannabis and nurses will care for these patients. The studies and literature in this report should inform nursing practice that represents the best interests of the patient.

Six Principles of Essential Knowledge

1. ***The nurse shall have a working knowledge of the current state of legalization of medical and recreational cannabis use.***

Critical to the care of patients who use cannabis is a working knowledge of the current state of legalization of medical and recreational cannabis use. Knowledge of the federal government prohibitions and any guidance from the federal government allows the nurse to be well informed regarding potential questions about the legality of the use of cannabis as a medical treatment.

Although the use of marijuana pursuant to authorized MMPs conflicts with federal law and regulations, at present there is no controlling case law holding that Congress intended to preempt the field of regulation of cannabis use under its supremacy powers (*Beek v. City of Wyoming*, 2014; Mikos, 2012).

2. ***The nurse shall have a working knowledge of the jurisdiction's MMP.***

Rules and statutes for the MMP include specific information for the particular jurisdiction. Each jurisdiction has widely different laws, rules, and regulations regarding medical cannabis. The jurisdiction's MMP or Department of Health will provide the specific details in each jurisdiction (NCSL, 2017). The laws regarding the MMPs are frequently changing. Safe nursing practice includes an awareness of any regulatory changes that may affect their practice.

Usually, a medication is prescribed with a specific dose, route, and frequency. A health care provider, however, cannot prescribe medical cannabis; the provider certifies that the patient has a state qualifying condition. Several jurisdictions identify an APRN as one of the health care providers who can certify that a patient has a qualifying condition. Access to medical cannabis can only be obtained once the patient visits a state-authorized cannabis dispensary with a valid registration to the MMP. The nature of the certification process is different from any other substance recommended to a patient by a health care provider. An MMP's certification process presents a special set of implications (NCSL, 2017). A medical certification is not required for FDA-approved cannabinoids (dronabinol and nabilone) and these medications may be prescribed without registration with an MMP.

Health care practitioners who certify that a patient has a qualifying condition need to consider all aspects of the patient's history, diagnostic information, and mitigating concerns. Precautions should be taken in the consideration of, and decision to cer-

tify, patients with a medical cannabis qualifying condition. Since cannabis is a known substance of abuse, sufficient consideration for the potential for addiction must be included in the assessment process. Other safe practice considerations include certification for patients who show a resistance to conventional treatments or for those who may benefit from cannabis as an adjunctive, and continued monitoring of the patient after certification and treatment with cannabis.

Additionally, because medical cannabis is not covered by insurance or Medicare, use of medical cannabis may impose a significant financial burden on the patient and due consideration must be given to this potential impact.

Patients that utilize MMPs are frequently debilitated by their condition. Cannabis is most often not delivered by the traditional pill route. For some patients, delivery and administration of cannabis may be an unfamiliar and complicated process that is not possible for the debilitated patient to perform. Therefore, state law and rules may also provide for administration by designated caregivers (i.e., those specifically authorized to assist with the patient's medical use of cannabis). A few states allow an employee of a hospice provider or nursing or medical facility or a visiting nurse, personal care attendant, or home health aide to assist in the qualifying patient's medical use of cannabis (including, but not limited to, California, Massachusetts, Minnesota, and New Hampshire) (NCSL, 2017). These designated caregivers must generally be registered with the state and meet the qualifications and limits of the caregiving statute.

3. ***The nurse shall have an understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids, and the interactions between them.***

The endocannabinoid system consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids (Mackie, 2008). Discovered in 1973, this system includes a series of cannabinoid receptors throughout the body embedded in cell membranes thought to promote homeostasis. Endocannabinoids are naturally occurring substances within the body, while phytocannabinoids (plant substances that stimulate cannabinoid receptors) are found in cannabis. The most well known of these cannabinoids is THC; however CBD and CBN are gaining interest in therapeutic use (Pacher et al., 2006).

4. ***The nurse shall have an understanding of cannabis pharmacology and the research associated with the medical use of cannabis.***

Research related to cannabis use in humans is limited due to government restrictions on research involving cannabis. Therefore, information regarding medicinal use of cannabis must be derived from credible research using randomized placebo-controlled studies. These particular studies are the most likely to elucidate causality in treatments and are the only trusted source of evidence for cannabis as a clinical intervention.

Present available scientific evidence exists for the use of cannabis in specific qualifying conditions. Moderate- to high-quality evidence exists for the following:

- Cachexia
- Chemotherapy-induced nausea and vomiting
- Pain (resulting from cancer or rheumatoid arthritis)
- Chronic pain (resulting from fibromyalgia),
- Neuropathies (resulting from HIV/AIDS, MS, or diabetes)
- Spasticity (from MS or spinal cord injury)

Other important considerations are the adverse effects of cannabis, specifically the risks to various patient groups; concerns regarding abuse, dependence, overdose, and withdrawal; and drug-to-drug interactions.

Most cannabis preparations are not included in FDA drug resources (except nabilone and dronabinol). Patients do not receive a prescription for medical cannabis noting the route and dosage. Nurses must be aware of the general information regarding various methods of administration and the principles of self-titration dosing. The state-authorized cannabis dispensary often gives the patient advice regarding route and dosage, following the self-titration method of dosing.

5. ***The nurse shall be able to identify the safety considerations for patient use of cannabis.***

Administration of medical cannabis can only be carried out by the certified patient, or the designated caregivers registered to care for the patient according to the MMP. Health care professionals may administer medical cannabis according to the MMP and facility policy (NCSL, 2017).

Storage considerations include keeping cannabis out of the reach of children, minors, and nonregistered individuals; storing all cannabis products in a locked area; keeping cannabis in the child-resistant packaging from the store; and storing raw cannabis in a cool, dry, place.

Disposal of unused cannabis products should be completed according to the DEA's Disposal Act (DEA, 2014). Generally, one can locate a collection receptacle via the DEA Registration Call Center (800-882-9539).

6. ***The nurse shall approach the patient without judgment regarding the patient's choice of treatment or preferences in managing pain and other distressing symptoms.***

The care of patients by nurses in any capacity is grounded in ethical practice, that is, the moral principles that guide one's conduct. Beneficence, nonmaleficence, autonomy, fairness, and loyalty are some of the more common moral principles that guide one's conduct. In addition to personal ethics, nurses are also guided by standards of practice, which are based on professional values, and/or a code of ethics. Awareness of one's own beliefs and attitudes about any therapeutic intervention is vital, as nurses are expected to provide patient care without personal judgment of patients.

Although medical cannabis legislation is evolving and more jurisdictions are adopting MMPs, social acceptance may not be evolving at the same pace. In addition, scientific evidence for cannabis use exists for some but not all conditions. The evolution of legislation, social acceptance, and scientific evidence creates ethically challenging patient care situations. Ethical decision making regarding a patient's care must include the patient as well as the family, caregivers, and other practitioners involved in the patient's care.

Necessary ethical considerations regarding a patient's treatment with cannabis include, but are not limited to:

- Clinical indications, such as diagnosis, history, goals for use of medical marijuana, probability of success, other options for care
- Patient's personal preferences based on information of benefits and risks
- Attention to decision making by the patient's proxy, parent, or guardian, if the patient is incapacitated in decision making or is a minor
- Quality of life based on the patient's subjective viewpoint
- Situational context, such as family and other important relationships, economic factors, access to care, and potential harm to others.

Conclusion

Available moderate- to high-quality research, along with state and federal laws regarding the use of cannabis, is a necessary component of knowledge in the nursing care of a patient using cannabis. Without the usual FDA approval of cannabis that identifies precise indications, dosage, and efficacy for medications, nurses must have a much more nuanced knowledge while caring for the patient using cannabis. The six principles of essential knowledge listed above create a strong foundation for safe and knowledgeable nursing care of patients using medical or recreational cannabis.

These principles are the foundation for the NCSBN National Nursing Guidelines for Medical Marijuana that follow in Part II of this report:

- Nursing Care of the Patient Using Medical Marijuana
- Medical Marijuana Education in Pre-Licensure Nursing Programs
- Medical Marijuana Education in APRN Nursing Programs
- APRN Certifying a Medical Marijuana Qualifying Condition.

References

See Appendix C for Part I references.

The NCSBN National Nursing Guidelines for Medical Marijuana

Nursing Care of the Patient Using Medical Marijuana

Medical Marijuana Education in Pre-Licensure Nursing Programs

Medical Marijuana Education in APRN Nursing Programs

APRNs Certifying a Medical Marijuana Qualifying Condition

Nursing Care of the Patient Using Medical Marijuana

Purpose of the Guidelines

Over 31 US jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical use. Several other jurisdictions also have legalized cannabis for medical use.* Each medical marijuana program has unique characteristics. In the United States, cannabis is a Schedule I Controlled Substance. Therefore, medical cannabis is unlike most other therapeutics in that providers cannot prescribe cannabis, nor can pharmacies dispense cannabis. However, applicable jurisdiction statutes and rules provide for the manufacture, distribution, and use of cannabis for medical purposes.

These guidelines provide nurses with principles of safe and knowledgeable practice to promote patient safety when caring for patients using medical marijuana.

Definitions

Cannabis. Any raw preparation of the leaves or flowers from the plant genus *Cannabis*. This report uses "cannabis" as a shorthand that also includes cannabinoids.

Cannabidiol (CBD). A major cannabinoid that indirectly antagonizes cannabinoid receptors, which may attenuate the psychoactive effects of tetrahydrocannabinol.

Cannabinoid. Any chemical compound that acts on cannabinoid receptors. These include endogenous and exogenous cannabinoids.

Cannabinol (CBN). A cannabinoid more commonly found in aged cannabis as a metabolite of other cannabinoids. It is nonpsychoactive.

Certify. The act of confirming that a patient has a qualifying condition. Many jurisdictions use alternative phrases such as "attest" or "authorize"; however, 13 of 29 jurisdictions use "certify" language in their statutes.

Clinical research. An activity that involves studies that experimentally assign randomized human participants to one or more drug interventions to evaluate the effects on health outcomes

Designated caregiver. An individual who is selected by the Medical Marijuana Program qualifying patient and authorized by the Medical Marijuana Program to purchase and/or administer cannabis on the patient's behalf. Also sometimes referred to as an "alternate caregiver."

Dronabinol. The generic name for synthetic tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration–approved drug Marinol.

Endocannabinoid system. A system that consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.

Marijuana. A cultivated cannabis plant, whether for recreational or medicinal use. The words "marijuana" and "cannabis" are often used interchangeably in various lay and scientific literature. These guidelines will primarily use the word "cannabis." When referring to a medical marijuana program, the guidelines will use the word "marijuana," as it is often used within program references.

Medical Marijuana Program (MMP). The official jurisdictional resource for the use of cannabis for medical purposes. Search the jurisdiction's website or Department of Health for "medical cannabis program" or "medical marijuana program."[1]

Nabilone. The generic name for a synthetic cannabinoid similar to tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration–approved drug Cesamet.

Schedule I Controlled Substance. Defined in the federal Controlled Substances Act[2] as those substances that have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the substance under medical supervision.

Tetrahydrocannabinol (THC). One of many cannabinoids found in cannabis. THC is the primary substance responsible for most of the characteristic psychoactive effects of cannabis.[3]

* In Australia, cannabis for medical use is federally legal, with states allowed to implement as they see fit. Although Bermuda has not legislated use of marijuana, their Supreme Court ruled that citizens could apply for personal licenses to possess cannabis for medical use. Cannabis for medical use is federally legal in all provinces of Canada. In New Zealand, physicians may prescribe CBD and cannabis-based products.

Recommendations

Essential Knowledge

1. The nurse shall have a working knowledge of the current state of legalization of medical and recreational cannabis use.
   - *The Drug Enforcement Agency (DEA) classifies cannabis as a Schedule I Controlled Substance. This classification not only prohibits practitioners from prescribing cannabis, it also prohibits most research using cannabis.*[4]
   - *The process for obtaining cannabis for federally funded research purposes is cumbersome. Currently, the only legal source of cannabis for research purposes is grown in limited quantities at the University of Mississippi.*[5] *The DEA sets an annual quota for cannabis grown for research purposes.*[6]
   - *Over 31 jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical purposes. In these laws, the jurisdiction has adopted exemptions legalizing the use of cannabis for medical purposes. Although the use of marijuana pursuant to authorized MMPs conflicts with federal law and regulations, at present there is no controlling case law holding that Congress intended to preempt the field of regulation of cannabis use under its supremacy powers.*[7]
   - *An increasing proportion of jurisdictions have also decriminalized or legalized recreational cannabis use.*[8]
   - *The federal government's position on prosecuting the use of cannabis that is legal under applicable jurisdiction law has been set out in U.S. Department of Justice position papers. In 2009, the U.S. Attorney General took a position that discourages federal prosecutors from prosecuting people who distribute or use cannabis for medical purposes in compliance with applicable jurisdiction law; further similar guidance was given in 2011, 2013, and 2014.*[9] *In January 2018, the U.S. Office of the Attorney General rescinded the previous nationwide guidance specific to marijuana enforcement. The 2018 memorandum*[10] *provides that federal prosecutors follow the well-established principles in deciding which cases to prosecute, namely, the prosecution is to weigh all relevant considerations, including priorities set by the attorneys general, seriousness of the crime, deterrent effect of criminal prosecution, and cumulative impact of particular crimes on the community.*
2. The nurse shall have general knowledge of the principles of an MMP.
   - *MMPs are defined and described within the statute and rules of the specific jurisdiction. The relevant statute or rules are most easily located through the jurisdiction's Department of Health and MMP.*[11] *Laws and rules regarding MMPs are an evolving process. Always confirm use of the most recent versions.*
   - *A health care provider does not prescribe cannabis.*
   - *The MMP will specify the qualifying conditions and the certifying process as well as the type of health care provider who can certify a qualifying condition.*[12]
   - *The MMP will specify whether an advanced practice registered nurse can certify a qualifying condition and whether a specific course or training is required in order to participate in certifying an MMP qualifying condition.*[13]
   - *After the qualifying condition is certified, the patient registers with the MMP. Once registered, the patient can obtain cannabis from a jurisdiction-authorized cannabis dispensary.*
   - *Procurement and administration of cannabis for medical purposes are limited to the patient and/or the patient's designated caregiver. The MMPs will specify whether designated caregivers are permissible as well as the applicable process for registration as a designated caregiver.*[14]
   - *In some jurisdictions, the MMP allows an employee of a hospice provider or nursing, or medical facility, or a visiting nurse, personal care attendant, or home health aide to act as a designated caregiver for the administration of medical marijuana.*[15]
3. The nurse shall have a general understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids, and the interactions between them.
   - *The endocannabinoid system consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.*[16]
   - *Discovered in 1973, this system includes a series of cannabinoid receptors throughout the body embedded in cell membranes that, when stimulated by endocannabinoids, are thought to promote homeostasis.*[17]
   - *Endocannabinoids are naturally occurring substances within the body, while phytocannabinoids (plant substances that stimulate cannabinoid receptors) are found in cannabis.*[18]
   - *The most well known of these cannabinoids is tetrahydrocannabinol (THC); however, cannabidiol (CBD) and cannabinol (CBN) are gaining interest in therapeutic use.*[19]
4. The nurse shall have an understanding of cannabis pharmacology and the research associated with the medical use of cannabis.

Due to government restrictions on research involving cannabis, the surge of legislation has outpaced research, leaving nurses with few resources when caring for patients who use medical cannabis. Therefore, information regarding medicinal use of cannabis must be derived from moderate- to high-quality evidence using randomized placebo-controlled studies. These particular studies are the most likely to elucidate causality in treatments and are the only trusted source of evidence for cannabis as a clinical intervention. Research on cannabis is an evolving body of work. As with any scientific literature, it is important to rely on the most recent high-quality evidence.

   a. Current scientific evidence exists for the use of cannabis for the following qualifying conditions
      - *Moderate- to high-quality evidence exists for*
        - *cachexia*
        - *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).*[20]

b. Adverse effects of cannabis use are influenced by the patient's condition and current medications
   - *The patient's propensity for the following may be exacerbated by cannabis: increased heart rate, increased appetite, sleepiness, dizziness, decreased blood pressure, dry mouth/dry eyes, decreased urination, hallucination, paranoia, anxiety, impaired attention, memory, and psychomotor performance.*[21]
   - *Cannabis may exacerbate symptoms associated with asthma, bronchitis, and emphysema; cardiac disease; and alcohol or other drug dependence.*[22]
   - *Cognitive impairment by cannabis may be dose- and age-dependent.*[23]
   - *It is highly likely that cannabis will exacerbate symptoms of poor balance and posture in patients with dyskinetic disorders. Similarly, cannabis may worsen mental faculties in conditions that cause cognitive deficits. Patients who suffer from diseases with neurologic symptomology may show greater cognitive impairment.*[24]
   - *Some participants report fatigue, suicidal ideation, nausea, asthenia, and vertigo as adverse effects of cannabis.*[25]
   - *Cannabinoid receptors are effectively absent in the brainstem cardiorespiratory centers. This is believed to preclude the possibility of a fatal overdose from cannabinoid intake.*[26]
   - *Cannabis can be a drug of abuse. Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the* DSM-5.[27]
   - *Cannabis withdrawal syndrome has been identified as a syndrome seen in some patients whose cannabis use has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months). The withdrawal syndrome has varying symptomatology, including insomnia, loss of appetite, physical symptoms, and restlessness initially, then irritability/anger, vivid and unpleasant dreams after a week.*[28]

c. Variable effects of cannabis are dependent on type of product and route of administration
   - *Since medical cannabis is not an FDA drug, there is no recommended dosage. Instead medical cannabis is titrated by the patient, with the principle of "start low, go slow."*
   - *Continual patient assessment of perceived efficacy and adverse effects is recommended. Useful strategies include tracking dose, symptoms, relief, and adverse effects in a journal for review with the authorizing practitioner.*
   - *FDA-approved synthetic THC drugs (dronabinol and nabilone) are administered orally or by an oromucosal route with a specific dosage.*

d. Risks to particular groups of patients
   - *Adolescence. Many studies show a correlation between cannabis use and poor grades, high dropout rates, lower income, lower percentage of college degree completion, greater need for economic assistance, unemployment, and use of other drugs. Although these trends are related to recreational rather than medicinal cannabis use, the trends cannot be ignored but should be balanced with the benefits of cannabis for medical use.*[29]
   - *Fertility. Two preclinical studies indicate that interference with endogenous cannabinoids might increase chances of failed embryo implantation*[30] *and cannabinoids are capable of dysregulating hormones, which in turn can affect spermatogenesis.*[31]
   - *Neonates. Presently there are no reliable data for neurodevelopmental outcomes with early exposure to cannabis in neonatal life, or through either breastfeeding or secondhand inhalation.*[32,33,34]
   - *Cannabis can be a drug of abuse and precautions should be taken to minimize the risk of misuse and abuse.*
   - *Cannabis use may exacerbate existing psychoses in those with a risk of suicide or history of suicide attempt, schizophrenia, bipolar disorder, or other psychotic conditions.*[35]

5. The nurse shall be aware of the facility or agency policies regarding administration of medical marijuana.

Always check with the facility and local Department of Health or MMP for more information on the facility policy when caring for a patient using cannabis medically.[36]

Clinical Encounter Considerations

1. As part of the clinical encounter for a patient using cannabis for medical use, the nurse shall conduct an assessment related to the following:
   - *Signs and symptoms of cannabis adverse effects*
     - *Increased heart rate, increased appetite, sleepiness, dizziness, decreased blood pressure, dry mouth/dry eyes, decreased urination, hallucination, paranoia, anxiety, impaired attention, memory, psychomotor performance* [37] *as well a, symptoms associated with asthma, bronchitis, and emphysema* [38] *or exacerbation of poor balance and posture in patients with dyskinetic disorders.*[39]
     - *Less frequently: fatigue, suicidal ideation, nausea, asthenia, and vertigo.*
     - *Hyperemesis syndrome caused by overconsumption of edible cannabis product that can cause higher than normal blood concentrations of cannabinoids.*[40]
     - *Variable effects of cannabis are dependent on type of product and route of administration*
     - *As medical cannabis dosage is titrated by the patient, with the principle of "start low, go slow," continual patient assessment of perceived efficacy and adverse effects is recommended.*
     - *Useful strategies include tracking dose, symptoms, relief, and adverse effects in a journal.*
2. The nurse shall communicate the findings of the clinical encounter to other health care providers and note such communication in documentation.

Clear, complete, and accurate documentation in a health record ensures that all those involved in a patient's care have access to information upon which to plan and evaluate their interventions.

3. The nurse shall be able to identify the safety considerations for patient use of cannabis.
   - *Administration of cannabis for medical use can only be carried out by the certified patient or designated caregivers registered to care for the patient.*
   - *Cannabis storage considerations include:*
     - *keeping cannabis out of the reach of children, minors, and non-registered individuals*
     - *storing all cannabis products in a locked area*
     - *keeping cannabis in the original child-resistant packaging*
     - *storing raw cannabis in a cool, dry, place*
     - *following labeling guidelines for storage and expiration dates*
   - *Disposal of unused cannabis products should be completed according to the DEA's Disposal Act.[41] Generally, one can locate a collection receptacle via the DEA Registration Call Center (800-882-9539).*

Medical Marijuana Administration Considerations

1. A nurse shall not administer cannabis to a patient unless specifically authorized by jurisdiction law.[42]
2. Instances in which the nurse may administer cannabis or synthetic THC to a patient.
   - *Administration of FDA-approved synthetic THC drugs (dronabinol and nabilone) as per facility formulary and policy*
   - *As a registered MMP-designated caregiver*
     - *The majority of jurisdictions allow a designated caregiver to assist a patient with the medical use of cannabis.*
     - *These caregivers must meet specific qualifications and be registered with the MMP and must not practice outside of the limits of the caregiving statute.*[43]
     - *Some jurisdictions allow an employee of a hospice provider or nursing or medical facility, or a visiting nurse, to assist in the administration of medical marijuana.*
     - *Check the most current MMP statute or rules.*[44]
     - *Check facility policy regarding medical marijuana administration.*

Ethical Considerations

In addition to ethical responsibilities under the nurse's jurisdictional law, the nurse shall approach the patient without judgment regarding the patient's choice of treatment or preferences in managing pain and other distressing symptoms.

Awareness of one's own beliefs and attitudes about any therapeutic intervention is vital, as nurses are expected to provide patient care without personal judgment of patients.

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NCSBN GUIDELINES FOR THE NURSING CARE OF Patients Using Marijuana

Medical Marijuana Education in Pre-Licensure Nursing Programs

Purpose of the Guidelines

Over 31 US jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical use. Several other jurisdictions also have legalized cannabis for medical use.* Each medical marijuana program has unique characteristics. In the United States, cannabis is a Schedule I Controlled Substance. Therefore, medical cannabis is unlike most other therapeutics in that providers cannot prescribe cannabis, nor can pharmacies dispense cannabis. However, applicable jurisdiction statutes and rules provide for the manufacture, distribution, and use of cannabis for medical purposes.

These recommendations for curriculum content provide nurses with principles of safe and knowledgeable practice to promote patient safety when caring for patients using medical marijuana.

Definitions

Cannabis. Any raw preparation of the leaves or flowers from the plant genus *Cannabis*. This report uses "cannabis" as a shorthand that also includes cannabinoids.

Cannabidiol (CBD). A major cannabinoid that indirectly antagonizes cannabinoid receptors, which may attenuate the psychoactive effects of tetrahydrocannabinol.

Cannabinoid. Any chemical compound that acts on cannabinoid receptors. These include endogenous and exogenous cannabinoids.

Cannabinol (CBN). A cannabinoid more commonly found in aged cannabis as a metabolite of other cannabinoids. It is nonpsychoactive.

Certify. The act of confirming that a patient has a qualifying condition. Many jurisdictions use alternative phrases such as "attest" or "authorize"; however, 13 of 29 jurisdictions use "certify" language in their statutes.

Clinical research. An activity that involves studies that experimentally assign randomized human participants to one or more drug interventions to evaluate the effects on health outcomes

Designated caregiver. An individual who is selected by the Medical Marijuana Program qualifying patient and authorized by the Medical Marijuana Program to purchase and/or administer cannabis on the patient's behalf. Also sometimes referred to as an "alternate caregiver."

Dronabinol. The generic name for synthetic tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration–approved drug Marinol.

Endocannabinoid system. A system that consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.

Marijuana. A cultivated cannabis plant, whether for recreational or medicinal use. The words "marijuana" and "cannabis" are often used interchangeably in various lay and scientific literature. These guidelines will primarily use the word "cannabis." When referring to a medical marijuana program, the guidelines will use the word "marijuana," as it is often used within program references.

Medical Marijuana Program (MMP). The official jurisdictional resource for the use of cannabis for medical purposes. Search the jurisdiction's website or Department of Health for "medical cannabis program" or "medical marijuana program."[1]

Nabilone. The generic name for a synthetic cannabinoid similar to tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration–approved drug Cesamet.

Schedule I Controlled Substance. Defined in the federal Controlled Substances Act[2] as those substances that have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the substance under medical supervision.

Tetrahydrocannabinol (THC). One of many cannabinoids found in cannabis. THC is the primary substance responsible for most of the characteristic psychoactive effects of cannabis.[3]

* In Australia, cannabis for medical use is federally legal, with states allowed to implement as they see fit. Although Bermuda has not legislated use of marijuana, their Supreme Court ruled that citizens could apply for personal licenses to possess cannabis for medical use. Cannabis for medical use is federally legal in all provinces of Canada. In New Zealand, physicians may prescribe CBD and cannabis-based products.

Recommendations

1. The nursing student shall have a working knowledge of the current state of legalization of medical and recreational cannabis use.
   - *The Drug Enforcement Agency (DEA) classifies cannabis as a Schedule I Controlled Substance. This classification not only prohibits practitioners from prescribing cannabis, it also prohibits most research using cannabis.*[4]
   - *The process for obtaining cannabis for federally funded research purposes is cumbersome. Currently, the only legal source of cannabis for research purposes is grown in limited quantities at the University of Mississippi.*[5] *The DEA sets an annual quota for cannabis grown for research purposes.*[6]
   - *Over 31 jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical purposes. In these laws, the jurisdiction has adopted exemptions legalizing the use of cannabis for medical purposes. Although the use of marijuana pursuant to authorized MMPs conflicts with federal law and regulations, at present there is no controlling case law holding that Congress intended to preempt the field of regulation of cannabis use under its supremacy powers.*[7]
   - *An increasing proportion of jurisdictions have also decriminalized or legalized recreational cannabis use.*[8]
   - *The federal government's position on prosecuting the use of cannabis that is legal under applicable jurisdiction law has been set out in U.S. Department of Justice position papers. In 2009, the U.S. Attorney General took a position that discourages federal prosecutors from prosecuting people who distribute or use cannabis for medical purposes in compliance with applicable jurisdiction law; further similar guidance was given in 2011, 2013, and 2014.*[9] *In January 2018, the U.S. Office of the Attorney General rescinded the previous nationwide guidance specific to marijuana enforcement. The 2018 memorandum*[10] *provides that federal prosecutors follow the well-established principles in deciding which cases to prosecute, namely, the prosecution is to weigh all relevant considerations, including priorities set by the attorneys general, seriousness of the crime, deterrent effect of criminal prosecution, and cumulative impact of particular crimes on the community.*
2. The nursing student shall have general knowledge of the principles of an MMP.
   - *MMPs are defined and described within the statute and rules of the specific jurisdiction. The relevant statute or rules are most easily located through the jurisdiction's Department of Health and MMP.*[11] *Laws and rules regarding MMPs are an evolving process. Always confirm use of the most recent versions.*
   - *A health care provider does not prescribe cannabis.*
   - *The MMP will specify the qualifying conditions and the certifying process as well as the type of health care provider who can certify a qualifying condition.*[12]
   - *The MMP will specify whether an APRN can certify a qualifying condition and whether a specific course or training is required in order to participate in certifying an MMP qualifying condition.*[13]
   - *After the qualifying condition is certified, the patient registers with the MMP. Once registered, the patient can obtain cannabis from a jurisdiction-authorized cannabis dispensary.*
   - *Procurement and administration of cannabis for medical purposes are limited to the patient and/or the patient's designated caregiver. The MMPs will specify whether designated caregivers are permissible as well as the applicable process for registration as a designated caregiver.*[14]
   - *In some jurisdictions, the MMP allows an employee of a hospice provider or nursing or medical facility, or a visiting nurse, personal care attendant, or home health aide to act as a designated caregiver for the administration of medical marijuana.*[15]
3. The nursing student shall have a general understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids, and the interactions between them.
   - *The endocannabinoid system consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.*[16]
   - *Discovered in 1973, this system includes a series of cannabinoid receptors throughout the body embedded in cell membranes that, when stimulated by endocannabinoids, are thought to promote homeostasis.*[17]
   - *Endocannabinoids are naturally occurring substances within the body, while phytocannabinoids (plant substances that stimulate cannabinoid receptors) are found in cannabis.*[18]
   - *The most well known of these cannabinoids is tetrahydrocannabinol (THC); however, cannabidiol (CBD) and cannabinol (CBN) are gaining interest in therapeutic use.*[19]
4. The nursing student shall have an understanding of cannabis pharmacology and the research associated with the medical use of cannabis.

Due to government restrictions on research involving cannabis, the surge of legislation has outpaced research, leaving nurses with a few resources when caring for patients who use medical cannabis. Therefore, information regarding medicinal use of cannabis must be derived from moderate to high quality evidence using randomized placebo-controlled studies. These particular studies are the most likely to elucidate causality in treatments and are the only trusted source of evidence for cannabis as a clinical intervention. Research on cannabis is an evolving body of work. As with any scientific literature, it is important to rely on the most recent high quality evidence.

   a. Current scientific evidence exists for the use of cannabis for the following qualifying conditions
      - *Moderate to high quality evidence exists for*
        - *cachexia*
        - *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).*[20]

b. Adverse effects of cannabis use are influenced by the patient's condition and current medications
   - *The patient's propensity for the following may be exacerbated by cannabis: increased heart rate, increased appetite, sleepiness, dizziness, decreased blood pressure, dry mouth/dry eyes, decreased urination, hallucination, paranoia, anxiety, impaired attention, memory, and psychomotor performance.*[21]
   - *Cannabis may exacerbate symptoms associated with asthma, bronchitis, and emphysema; cardiac disease; and alcohol or other drug dependence.*[22]
   - *Cognitive impairment by cannabis may be dose- and age-dependent.*[23]
   - *It is highly likely that cannabis will exacerbate symptoms of poor balance and posture in patients with dyskinetic disorders. Similarly, cannabis may worsen mental faculties in conditions that cause cognitive deficits. Patients who suffer from diseases with neurologic symptomology may show greater cognitive impairment.*[24]
   - *Some participants report fatigue, suicidal ideation, nausea, asthenia, and vertigo as adverse effects of cannabis.*[25]
   - *Cannabinoid receptors are effectively absent in the brainstem cardiorespiratory centers. This is believed to preclude the possibility of a fatal overdose from cannabinoid intake.*[26]
   - *Cannabis can be a drug of abuse. Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the* DSM-5.[27]
   - *Cannabis withdrawal syndrome has been identified as a syndrome seen in some patients whose cannabis use has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months). The withdrawal syndrome has varying symptomatology, including insomnia, loss of appetite, physical symptoms, and restlessness initially, then irritability/anger, vivid and unpleasant dreams after a week.*[28]

c. Variable effects of cannabis are dependent on type of product and route of administration
   - *Since medical cannabis is not an FDA drug, there is no recommended dosage. Instead, medical cannabis dosage is titrated by the patient, with the principle of "start low, go slow."*
   - *Continual patient assessment of perceived efficacy and adverse effects is recommended. Useful strategies include tracking dose, symptoms, relief, and adverse effects in a journal for review with the authorizing practitioner.*
   - *FDA-approved synthetic THC drugs (dronabinol and nabilone) are administered orally or by an oromucosal route with a specific dosage.*

d. Risks to particular groups of patients
   - *Adolescence. Many studies show a correlation between cannabis use and poor grades, high dropout rates, lower income, lower percentage of college degree completion, greater need for economic assistance, unemployment, and use of other drugs. Although these trends are related to recreational rather than medicinal cannabis use, the trends cannot be ignored but should be balanced with the benefits of cannabis for medical use.*[29]
   - *Fertility. Two preclinical studies indicate that interference with endogenous cannabinoids might increase chances of failed embryo implantation*[30] *and cannabinoids are capable of dysregulating hormones, which in turn can affect spermatogenesis.*[31]
   - *Cannabis can be a drug of abuse and precautions should be taken to minimize the risk of misuse and abuse.*
   - *Neonates. Presently there are no reliable data for neurodevelopmental outcomes with early exposure to cannabis in neonatal life, or through either breastfeeding or secondhand inhalation.*[32,33,34]
   - *Cannabis use may exacerbate existing psychoses in those with a risk of suicide or history of suicide attempt, schizophrenia, bipolar disorder, or other psychotic conditions.*[35]

5. The nursing student shall be able to identify the safety considerations for patient use of cannabis.
   - *Administration of cannabis for medical use can only be carried out by the certified patient or designated caregivers registered to care for the patient.*
   - *Cannabis storage considerations include:*
     - *keeping cannabis out of the reach of children, minors, and nonregistered individuals*
     - *storing all cannabis products in a locked area*
     - *keeping cannabis in the original child-resistant packaging*
     - *storing raw cannabis in a cool, dry, place*
     - *following labeling guidelines for storage and expiration dates*
   - *Disposal of unused cannabis products should be completed according to the DEA's Disposal Act.*[36] *Generally, one can locate a collection receptacle via the DEA Registration Call Center (800-882-9539).*
6. The nursing student shall approach the patient without judgment regarding the patient's choice of treatment or preferences in managing pain and other distressing symptoms.
   - *Awareness of one's own beliefs and attitudes about any therapeutic intervention is vital as nurses are expected to provide patient care without personal judgment of patients.*
7. The nursing student shall be aware of medical marijuana administration considerations.
   - *A nurse shall not administer cannabis to a patient unless specifically authorized by jurisdiction law.*[37]
   - *Instances in which the nurse may administer cannabis or synthetic THC to a patient.*
     - *Administration of FDA-approved synthetic THC drugs (dronabinol and nabilone) per facility formulary and policy*
     - *As a registered MMP designated caregiver*
       - *The majority of jurisdictions allow a designated caregiver to assist a patient with the medical use of cannabis.*
       - *These caregivers must meet specific qualifications and be registered with the MMP and must not practice outside of the limits of the caregiving statute.*[38]

- *Some jurisdictions allow an employee of a hospice provider or nursing or medical facility, or a visiting nurse, to assist in the administration of medical marijuana.*[39]
- *Check the most current MMP statute or rules.*[40]
- *Check facility policy regarding medical marijuana administration.*

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Medical Marijuana Education in APRN Nursing Programs

Purpose of the Guidelines

Over 31 US jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical use. Several other jurisdictions also have legalized cannabis for medical use.* Each medical marijuana program has unique characteristics. In the United States, cannabis is a Schedule I Controlled Substance. Therefore, medical cannabis is unlike most other therapeutics in that providers cannot prescribe cannabis, nor can pharmacies dispense cannabis. However, applicable jurisdiction statutes and rules provide for the manufacture, distribution, and use of cannabis for medical purposes.

These recommendations for curriculum content will provide advanced practice registered nurses (APRNs) with principles of safe and knowledgeable practice to promote patient safety when caring for patients using marijuana and when certifying a medical marijuana qualifying condition for a specific patient.

Definitions

Cannabis. Any raw preparation of the leaves or flowers from the plant genus *Cannabis*. This report uses "cannabis" as a shorthand that also includes cannabinoids.

Cannabidiol (CBD). A major cannabinoid that indirectly antagonizes cannabinoid receptors, which may attenuate the psychoactive effects of tetrahydrocannabinol.

Cannabinoid. Any chemical compound that acts on cannabinoid receptors. These include endogenous and exogenous cannabinoids.

Cannabinol (CBN). A cannabinoid more commonly found in aged cannabis as a metabolite of other cannabinoids. It is nonpsychoactive.

Certify The act of confirming that a patient has a qualifying condition. Many jurisdictions use alternative phrases such as "attest" or "authorize"; however, 13 of 29 jurisdictions use "certify" language in their statutes.

Clinical research. An activity that involves studies that experimentally assign randomized human participants to one or more drug interventions to evaluate the effects on health outcomes

Designated caregiver. An individual who is selected by the Medical Marijuana Program qualifying patient and authorized by the Medical Marijuana Program to purchase and/or administer cannabis on the patient's behalf. Also sometimes referred to as an "alternate caregiver."

Dronabinol. The generic name for synthetic tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration (FDA)-approved drug Marinol.

Endocannabinoid system. A system that consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.

Marijuana. A cultivated cannabis plant, whether for recreational or medicinal use. The words "marijuana" and "cannabis" are often used interchangeably in various lay and scientific literature. These guidelines will primarily use the word "cannabis." When referring to a medical marijuana program, the guidelines will use the word "marijuana," as it is often used within program references.

Medical Marijuana Program (MMP.) The official jurisdictional resource for the use of cannabis for medical purposes. Search the jurisdiction's website or Department of Health for "medical cannabis program" or "medical marijuana program."[1]

Nabilone. The generic name for a synthetic cannabinoid similar to tetrahydrocannabinol. It is the active ingredient in the FDA-approved drug Cesamet.

Schedule I Controlled Substance. Defined in the federal Controlled Substances Act[2] as those substances that have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the substance under medical supervision.

Tetrahydrocannabinol (THC). One of many cannabinoids found in cannabis. THC is the primary substance responsible for most of the characteristic psychoactive effects of cannabis.[3]

* In Australia, cannabis for medical use is federally legal, with states allowed to implement as they see fit. Although Bermuda has not legislated use of marijuana, their Supreme Court ruled that citizens can apply for personal licenses to possess cannabis for medical use. Cannabis for medical use is federally legal in all provinces of Canada. In New Zealand, physicians may prescribe CBD and cannabis-based products.

Recommendations

1. The APRN student shall have a working knowledge of the current state of legalization of medical and recreational cannabis use.
   - *The Drug Enforcement Agency (DEA) classifies cannabis as a Schedule I Controlled Substance. This classification not only prohibits practitioners from prescribing cannabis, it also prohibits most research using cannabis except under rigorous oversight from the government.*[4]
   - *The process for obtaining cannabis for federally funded research purposes is cumbersome. Currently, the only legal source of cannabis for research purposes is grown in limited quantities at the University of Mississippi.*[5] *The DEA sets an annual quota for cannabis grown for research purposes.*[6] *Applications to use this source of cannabis must be made to the FDA, DEA, and National Institute on Drug Abuse.*[7]
   - *Over 31 jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical purposes. In these laws, the jurisdiction has adopted exemptions legalizing the use of cannabis for medical purposes. Although the use of marijuana pursuant to authorized MMPs conflicts with federal law and regulations, at present there is no controlling case law holding that Congress intended to preempt the field of regulation of cannabis use under its supremacy powers.*[8]
   - *An increasing proportion of jurisdictions have also decriminalized or legalized recreational cannabis use.*[9]
   - *Accordingly, the federal government's position on prosecuting the use of cannabis that is legal under applicable jurisdiction law has been set out in U.S. Department of Justice position papers. In 2009, the U.S. Attorney General took a position that discourages federal prosecutors from prosecuting people who distribute or use cannabis for medical purposes in compliance with applicable jurisdiction law; further similar guidance was given in 2011, 2013, and 2014.*[10] *In January 2018, the U.S. Office of the Attorney General rescinded the previous nationwide guidance specific to marijuana enforcement. The 2018 memorandum*[11] *provides that federal prosecutors follow the well-established principles in deciding which cases to prosecute, namely, the prosecution is to weigh all relevant considerations, including priorities set by the attorneys general, seriousness of the crime, deterrent effect of criminal prosecution, and cumulative impact of particular crimes on the community.*
2. The APRN student shall have working knowledge of the principles of an MMP.
   - *MMPs are defined and described within the statute and rules of the specific jurisdiction. The relevant statute or rules are most easily located through the jurisdiction's Department of Health and MMP.*[12] *Laws and rules regarding MMPs are an evolving process. Always confirm use of the most recent versions.*
   - *A health care provider does not prescribe cannabis.*
   - *The MMP will specify the qualifying conditions and the certifying process as well as the type of health care provider who can certify a qualifying condition.*[13]
   - *Specific MMP statutes define the bona fide health care provider–patient relationship necessary for authorization to certify a patient as having a qualifying condition. Some statutes require a preexisting and ongoing relationship with the patient as a treating health care provider; others note that the relationship may not be limited to issuing a written certification for the patient or a consultation simply for that purpose.*[14] *Verification of the existence of the required provider-patient relationship and documentation of the certification within the jurisdiction's MMP are essential.*
   - *The MMP will specify whether an APRN can certify a qualifying condition and whether a specific course or training is required in order to participate in certifying an MMP qualifying condition.*[15]
   - *After the qualifying condition is certified, the patient registers with the MMP. Once registered, the patient can obtain cannabis from a jurisdiction-authorized cannabis dispensary.*
   - *Procurement and administration of cannabis for medical purposes are limited to the patient and/or the patient's designated caregiver. The MMPs will specify whether designated caregivers are permissible as well as the applicable process for registration as a designated caregiver.*[16]
   - *In some jurisdictions, the MMP allows an employee of a hospice provider or nursing or medical facility, or a visiting nurse, personal care attendant, or home health aide to act as a designated caregiver for the administration of medical marijuana.*[17]
3. The APRN student shall have an understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids, and the interactions between them.
   - *The endocannabinoid system consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.*[18]
   - *Discovered in 1973, this system includes a series of cannabinoid receptors throughout the body embedded in cell membranes that, when stimulated by endocannabinoids, are thought to promote homeostasis.*[19]
   - *Endocannabinoids are naturally occurring substances within the body, while phytocannabinoids (plant substances that stimulate cannabinoid receptors) are found in cannabis.*[20]
   - *The most well known of these cannabinoids is tetrahydrocannabinol (THC); however, cannabidiol (CBD) and cannabinol (CBN) are gaining interest in therapeutic use.*[21]
4. The APRN student shall have an understanding of cannabis pharmacology and the research associated with the medical use of cannabis.

Due to government restrictions on research involving cannabis, the surge of legislation has outpaced research, leaving nurses with few resources when caring for patients who use medical cannabis. Therefore, information regarding medicinal use of cannabis must be derived from moderate- to high-quality evidence using randomized placebo-controlled studies. These particular studies are the most likely to elucidate causality in treatments and are the only trusted source of evidence for cannabis as a clinical intervention. Research on cannabis is an evolving body of work. As with any

scientific literature, it is important to rely on the most recent high-quality evidence.

a. Current scientific evidence exists for the use of cannabis for the following qualifying conditions
   - *Moderate- to high-quality evidence exists for*
     - *cachexia*
     - *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).*[22]
   - *No human studies have confirmed evidence for neuroprotective, anti-inflammatory, antitumoral, and antibacterial effects of cannabinoids. Some preclinical animal and cellular studies do provide evidence for those effects; however, no generalizations can be made to the human population.*[23]
   - *The treatment of some symptomology might be attributed to the more general and well-known effects of cannabis. Cannabis is a known sedative, appetite stimulant, and euphoriant. Instead of cannabis treating underlying symptoms, these three cannabis effects may only mask symptoms and increase a subjective sense of well-being, which could improve self-reported quality of life in patients who have difficulty sleeping, chronic pain, or poor appetite.* [24]

b. Adverse effects of cannabis are influenced by the patient's condition and current medications
   - *The patient's propensity for the following may be exacerbated by cannabis: increased heart rate, increased appetite, sleepiness, dizziness, decreased blood pressure, dry mouth/dry eyes, decreased urination, hallucination, paranoia, anxiety, impaired attention, memory, and psychomotor performance.*[25]
   - *Some participants report fatigue, suicidal ideation, nausea, asthenia, and vertigo as adverse effects of cannabis.*[26]
   - *Cannabis may exacerbate symptoms associated with asthma, bronchitis, and emphysema; cardiac disease; and alcohol or other drug dependence. Additionally, people with cardiac disease or alcohol or other drug dependence, or whose illnesses may be exacerbated by cannabis use should be cautioned.*[27]
   - *Cognitive impairment by cannabis may be dose- and age-dependent.*[28]
   - *It is highly likely that cannabis will exacerbate symptoms of poor balance and posture in patients with dyskinetic disorders. Similarly, cannabis may worsen mental faculties in conditions that cause cognitive deficits. Patients who suffer from diseases with neurologic symptomology may show greater cognitive impairment.*[29]
   - *Higher than normal blood concentrations of cannabinoids, usually from overconsumption of edible cannabis product can cause prolonged and often debilitating psychoses or hyperemesis syndrome.*[30]
   - *Cannabinoid receptors are effectively absent in the brainstem cardiorespiratory centers. This is believed to preclude the possibility of a fatal overdose from cannabinoid intake.*[31]
   - *Cannabis can be a drug of abuse. Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the* DSM-5.[32]
   - *Cannabis withdrawal syndrome has been identified as a syndrome seen in some patients whose cannabis use has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months). The withdrawal syndrome has varying symptomatology, including insomnia, loss of appetite, physical symptoms, and restlessness initially, then irritability/anger, vivid and unpleasant dreams after a week.*[33]

c. Variable effects of cannabis are dependent on type of product and route of administration
   - *The only reliably studied method for the administration of nonsynthetic cannabinoids is smoked cannabis. Insufficient evidence exists for vaporized cannabis, edibles, dabbing, etc. However, FDA-approved synthetic THC drugs (dronabinol and nabilone) are administered orally or by an oromucosal route.*[34]
   - *Edible cannabis products may have delayed effects.*[35]
   - *Therapeutic topical applications of cannabis have not been reliably studied. Tinctures have a wide range of possible applications (oromucosal, food additive, tea, etc.) and not all methods of administration have been reliably researched. Patients must be aware that concentrations may vary from those listed and to purchase these formulations from a reliable dispensary.*[36]
   - *Sublingual and mucosal sprays have the benefit of directly accessing the bloodstream. Oromucosal doses have less dosage variability than smoked cannabis and edibles, but are limited by slower absorption and lower rate of THC delivery to the brain.*[37]
   - *Smoked and vaporized cannabis has the advantage of rapid absorption into the bloodstream. Vaporization creates fewer pyrolytic compounds that irritate respiratory tissue. However, both methods show significant loss of active compounds lost to combustion and exhalation.*[38]
   - *Routes of administration other than oral, oromucosal, smoked, or vaporized have not been studied in a clinical setting.*
   - *Butane honey oil (or other oils used for superheated vaporization known as "dabbing"),*[39] *hashish, and other solvent-extracted resins often carry impurities, especially when manufactured by nonprofessionals. These methods of administration have not been adequately studied in a clinical setting.*

d. Principles of dosage titration
   - *Since medical cannabis is not an FDA drug, there is no recommended dosage.*
   - *There is a wide variability of cannabis concentration in different cannabis preparations. Due to this wide variability, principles of dosage titration (start low, go slow) and evaluation of specific effect are beneficial.*

- *Patients will need to titrate their dosage to establish an efficacious and stable dosing schedule over 1 to 2 weeks.*[40]
- *Continual patient assessment of perceived efficacy and adverse effects is recommended. Useful strategies include tracking dose, symptoms, relief, and adverse effects in a journal for review with the authorizing practitioner.*
- *FDA-approved synthetic THC drugs (dronabinol and nabilone) are administered orally or by an oromucosal route with a specific dosage.*

e. Risks to particular groups of patients, such as those of childbearing age, pregnant women, neonates, adolescents, and individuals at risk for substance abuse
   - *Adolescence. Many studies show a correlation between cannabis use and poor grades, high dropout rates, lower income, lower percentage of college degree completion, greater need for economic assistance, unemployment, and use of other drugs. Although these trends are related to recreational rather than medicinal cannabis use, the trends cannot be ignored but should be balanced with the benefits of cannabis for medical use.*[41]
   - *Fertility. Two preclinical studies indicate that interference with endogenous cannabinoids might increase chances of failed embryo implantation*[42] *and cannabinoids are capable of dysregulating hormones, which in turn can affect spermatogenesis.*[43]
   - *Neonates. Presently there are no reliable data for neurodevelopmental outcomes with early exposure to cannabis in neonatal life, through either breastfeeding or secondhand inhalation.*[44,45,46]
   - *Cannabis can be a drug of abuse and precautions should be taken to minimize the risk of misuse and abuse.*
   - *Cannabis use may exacerbate existing psychoses in those with a risk of suicide or history of suicide attempt, schizophrenia, bipolar disorder, or other psychotic conditions.*[47]

5. The APRN student shall be able to recognize signs and symptoms of cannabis use disorder and cannabis withdrawal syndrome.
   - *Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the* DSM-5.[48]
   - *Cannabis withdrawal syndrome has been identified as a syndrome seen in some patients whose cannabis use has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months). The withdrawal syndrome has varying symptomatology, including insomnia, loss of appetite, physical symptoms, and restlessness initially, then irritability/anger, vivid and unpleasant dreams after a week.*[49]
6. The APRN student shall be able to identify the safety considerations for patient use of cannabis.
   - *Administration of cannabis for medical use can only be carried out by the certified patient and/or designated caregivers registered to care for the patient.*
   - *Cannabinoids have the possibility of altering the metabolic breakdown of certain drugs. Departures from normal drug metabolism can result in higher or lower than expected plasma levels, which can cause dangerous drug interactions.*[50] *Information on possible interactions is available for the synthetic cannabinoids dronabinol and nabilone on the Drug Information Portal.*[51] *The interactions listed in the Drug Information Portal are not exhaustive and not directly transferable to nonsynthetic cannabinoids. Many of the listed interactions are probable interactions, as there are not sufficient studies into cannabinoid interactions.*
   - *Cannabis storage considerations include:*
     - *keeping cannabis out of the reach of children, minors, and nonregistered individuals*
     - *storing all cannabis products in a locked area*
     - *keeping cannabis in the child-resistant packaging from the store*
     - *storing raw cannabis in a cool, dry, place*
     - *following labeling guidelines for storage and expiration dates*
   - *Disposal of unused cannabis products should be completed according to the DEA's Disposal Act.*[52] *Generally, one can locate a collection receptacle via the DEA Registration Call Center (800-882-9539).*
7. The APRN student shall be aware of medical marijuana administration considerations.
   - *A nurse shall not administer cannabis to a patient unless specifically authorized by jurisdictional law.*[53]
   - *Instances in which the nurse may administer cannabis or synthetic THC to a patient.*
     - *Administration of FDA-approved synthetic THC drugs (dronabinol and nabilone) per facility formulary and policy*
     - *As a registered MMP designated caregiver*
       - *The majority of jurisdictions allow a designated caregiver to assist a patient with the medical use of cannabis.*
       - *These designated caregivers must meet specific qualifications and be registered with the MMP and must not practice outside of the limits of the caregiving statute.*[54]
       - *Some jurisdictions allow an employee of a hospice provider or nursing, or medical facility, or a visiting nurse, to assist in the administration of medical marijuana.*[55]
       - *Check the most current MMP statute or rules.*[56]
       - *Check facility policy regarding medical marijuana administration.*
8. The APRN student shall be aware of the ethical considerations related to the care of a patient using medical marijuana.
   - *In addition to ethical responsibilities under the jurisdictional law, the APRN shall approach the patient without judgment regarding the patient's choice of treatment or preferences in managing pain and other distressing symptoms. Awareness of one's own beliefs and attitudes about any therapeutic intervention is vital, as nurses are expected to provide patient care without personal judgment of patients.*
   - *The APRN shall take all appropriate steps to ensure that the APRN is not placed in a position where there is or may be an actual conflict, or potential conflict of interest between the APRN and a cannabis dispensary or cultivation center. A conflict of interest exists when a nurse's personal interests or concerns are or may be*

perceived as inconsistent with the best interest of the patient (e.g., when an APRN recommends a treatment in which the APRN has a financial stake).

- *The APRN shall not certify an MMP qualifying condition for oneself or a family member. An emerging conflict of interest in the medical field is when practitioners treat their own family members. The emotional attachment to the patient may cause the practitioner's judgment to be compromised.*

9. The APRN student shall follow specific employer policies and procedures, terms of the collaborative agreement, standard care arrangement, and facility policy and procedures regarding certifying a qualifying condition.

Always check with the facility, collaborative agreement, and local Department of Health or MMP for more information on the statutes of your jurisdiction when caring for a patient who can legally use cannabis for medical purposes.[57]

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NCSBN GUIDELINES FOR THE NURSING CARE OF Patients Using Marijuana

APRNs Certifying a Medical Marijuana Qualifying Condition

Purpose of the Guidelines

Over 31 US jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical use. Several other jurisdictions also have legalized cannabis for medical use.* Each medical marijuana program has unique characteristics. In the United States, cannabis is a Schedule I Controlled Substance. Therefore, medical cannabis is unlike most other therapeutics in that providers cannot prescribe cannabis, nor can pharmacies dispense cannabis. However, applicable jurisdiction statutes and rules provide for the manufacture, distribution, and use of cannabis for medical purposes.

These guidelines provide advanced practice registered nurses (APRNs) with principles of safe and knowledgeable practice to promote patient safety when certifying a medical marijuana qualifying condition.

Definitions

Cannabis. Any raw preparation of the leaves or flowers from the plant genus *Cannabis*. This report uses "cannabis" as a shorthand that also includes cannabinoids.

Cannabidiol (CBD). A major cannabinoid that indirectly antagonizes cannabinoid receptors, which may attenuate the psychoactive effects of tetrahydrocannabinol.

Cannabinoid. Any chemical compound that acts on cannabinoid receptors. These include endogenous and exogenous cannabinoids.

Cannabinol (CBN). A cannabinoid more commonly found in aged cannabis as a metabolite of other cannabinoids. It is nonpsychoactive.

Certify. The act of confirming that a patient has a qualifying condition. Many jurisdictions use alternative phrases such as "attest" or "authorize"; however, 13 of 29 jurisdictions use "certify" language in their statutes.

Clinical research. An activity that involves studies that experimentally assign randomized human participants to one or more drug interventions to evaluate the effects on health outcomes

Designated caregiver. An individual who is selected by the Medical Marijuana Program qualifying patient and authorized by the Medical Marijuana Program to purchase and/or administer cannabis on the patient's behalf. Also sometimes referred to as an "alternate caregiver."

Dronabinol. The generic name for synthetic tetrahydrocannabinol. It is the active ingredient in the U.S. Food & Drug Administration (FDA)-approved drug Marinol.

Endocannabinoid system. A system that consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.

Marijuana. A cultivated cannabis plant, whether for recreational or medicinal use. The words "marijuana" and "cannabis" are often used interchangeably in various lay and scientific literature. These guidelines will primarily use the word "cannabis." When referring to a medical marijuana program, the guidelines will use the word "marijuana," as it is often used within program references.

Medical Marijuana Program (MMP). The official jurisdictional resource for the use of cannabis for medical purposes. Search the jurisdiction's website or Department of Health for "medical cannabis program" or "medical marijuana program."[1]

Nabilone. The generic name for a synthetic cannabinoid similar to tetrahydrocannabinol. It is the active ingredient in the FDA-approved drug Cesamet.

Schedule I Controlled Substance. Defined in the federal Controlled Substances Act[2] as those substances that have a high potential for abuse; no currently accepted medical use in treatment in the United States; and a lack of accepted safety for use of the substance under medical supervision.

Tetrahydrocannabinol (THC). One of many cannabinoids found in cannabis. THC is the primary substance responsible for most of the characteristic psychoactive effects of cannabis.[3]

* In Australia, cannabis for medical use is federally legal, with states allowed to implement as they see fit. Although Bermuda has not legislated use of marijuana, its Supreme Court ruled that citizens could apply for personal licenses to possess cannabis for medical use. Cannabis for medical use is federally legal in all provinces of Canada. In New Zealand, physicians may prescribe CBD and cannabis-based products.

Recommendations

Essential Knowledge

1. The APRN shall have a working knowledge of the current state of legalization of medical and recreational cannabis use.
   - *The Drug Enforcement Agency (DEA) classifies cannabis as a Schedule I Controlled Substance. This classification not only prohibits practitioners from prescribing cannabis, it also prohibits most research using cannabis, except under rigorous oversight from the government.*[4]
   - *The process for obtaining cannabis for federally funded research purposes is a cumbersome process and unlike any other drug research. Currently, the only legal source of cannabis for research purposes is grown in limited quantities at the University of Mississippi.*[5] *The DEA sets a quota for the amount of cannabis that can be grown for research studies.*[6] *Applications to use this source of cannabis must be made to the U.S. Food & Drug Administration (FDA), DEA, and National Institute on Drug Abuse.*[7]
   - *Over 31 jurisdictions (including the District of Columbia), Guam, and Puerto Rico passed legislation legalizing cannabis for medical purposes. In these laws, the jurisdiction has adopted exemptions legalizing the use of cannabis for medical purposes. Although the use of marijuana pursuant to authorized medical marijuana programs (MMPs) conflicts with federal law and regulations, at present there is no controlling case law holding that Congress intended to preempt the field of regulation of cannabis use under its supremacy powers.*[8]
   - *An increasing proportion of jurisdictions have also decriminalized or legalized recreational cannabis use.*[9]
   - *The federal government's position on prosecuting the use of cannabis that is legal under applicable jurisdiction law has been set out in U.S. Department of Justice position papers. In 2009, the U.S. Attorney General took a position that discourages federal prosecutors from prosecuting people who distribute or use cannabis for medical purposes in compliance with applicable jurisdiction law; further similar guidance was given in 2011, 2013, and 2014.*[10] *In January 2018, the U.S. Office of the Attorney General rescinded the previous nationwide guidance specific to marijuana enforcement. The 2018 memorandum*[11] *provides that federal prosecutors follow the well-established principles in deciding which cases to prosecute, namely, the prosecution is to weigh all relevant considerations, including priorities set by the attorneys general, seriousness of the crime, deterrent effect of criminal prosecution, and cumulative impact of particular crimes on the community.*
2. The APRN shall have knowledge of the jurisdiction's MMP.
   - *MMPs are defined and described within the statute and rules of the specific jurisdiction. The relevant statute or rules are most easily located through the jurisdiction's Department of Health and MMP.*[12] *Laws and rules regarding MMPs are an evolving process. Always confirm use of the most recent versions.*
   - *A health care provider does not prescribe cannabis.*
   - *The MMP will specify the qualifying conditions and the certifying process as well as the type of health care provider who can certify a qualifying condition.*[13]
   - *Specific MMP statutes define the bona fide health care provider–patient relationship necessary for authorization to certify a patient as having a qualifying condition. Some statutes require a preexisting and ongoing relationship with the patient as a treating health care provider; others note that the relationship may not be limited to issuing a written certification for the patient or a consultation simply for that purpose.*[14] *Verification of the existence of the required provider-patient relationship and documentation of the certification within the jurisdiction's MMP is essential.*
   - *The MMP will specify whether an APRN can certify a qualifying condition and whether a specific course or training is required in order to participate in certifying an MMP qualifying condition.*[15]
   - *After the qualifying condition is certified, the patient registers with the MMP. Once registered, the patient can obtain cannabis from a jurisdiction-authorized cannabis dispensary.*
   - *Procurement and administration of cannabis for medical purposes is limited to the patient and/or the patient's designated caregiver. The MMPs will specify whether designated caregivers are permissible as well as the applicable process for registration as a designated caregiver.*[16]
   - *In some jurisdictions, the MMP allows an employee of a hospice provider or nursing or medical facility, or a visiting nurse, personal care attendant, or home health aide to act as a designated caregiver for the administration of medical marijuana.*[17]
3. The APRN shall have an understanding of the endocannabinoid system, cannabinoid receptors, cannabinoids and the interactions between them.
   - *The endocannabinoid system consists of endocannabinoids, cannabinoid receptors, and the enzymes responsible for synthesis and degradation of endocannabinoids.*[18]
   - *Discovered in 1973, this system includes a series of cannabinoid receptors throughout the body embedded in cell membranes that, when stimulated by endocannabinoids, are thought to promote homeostasis.*[19]
   - *Endocannabinoids are naturally occurring substances within the body, while phytocannabinoids (plant substances that stimulate cannabinoid receptors) are found in cannabis.*[20]
   - *The most well known of these cannabinoids is tetrahydrocannabinol (THC); however, cannabidiol (CBD) and cannabinol (CBN) are gaining interest in therapeutic use.*[21]
4. The APRN shall have an understanding of cannabis pharmacology and the research associated with the medical use of cannabis.

Due to government restrictions on research involving cannabis, the surge of legislation has outpaced research, leaving nurses with few resources when caring for patients who use medical cannabis. Therefore, information regarding medicinal use of cannabis must be derived from moderate- to high-quality evidence using randomized placebo-controlled studies. These particular studies are the most likely to elucidate causality in treatments

and are the only trusted source of evidence for cannabis as a clinical intervention. Research on cannabis is an evolving body of work. As with any scientific literature, it is important to rely on the most recent high-quality evidence.

a. Current scientific evidence exists for the use of cannabis for the following qualifying conditions:
   - *Moderate- to high-quality evidence exists for*
     - *cachexia*
     - *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)*[22]
   - *No human studies have confirmed evidence for neuroprotective, anti-inflammatory, antitumoral, and antibacterial effects of cannabinoids. Some preclinical animal and cellular studies do provide evidence for those effects; however, no generalizations can be made to the human population.*[23]
   - *The treatment of some symptomology might be attributed to the more general and well-known effects of cannabis. Cannabis is a known sedative, appetite stimulant, and euphoriant. Instead of cannabis treating underlying symptoms, these three effects of cannabis may only mask symptoms and increase a subjective sense of well-being, which could improve self-reported quality of life in patients that have difficulty sleeping, chronic pain, or poor appetite.*[24]

b. Adverse effects of cannabis are influenced by the patient's condition and current medications
   - *The patient's propensity for the following may be exacerbated by cannabis: increased heart rate, increased appetite, sleepiness, dizziness, decreased blood pressure, dry mouth/dry eyes, decreased urination, hallucination, paranoia, anxiety, impaired attention, memory, and psychomotor performance.*[25]
   - *Some participants report fatigue, suicidal ideation, nausea, asthenia, and vertigo as adverse effects of cannabis.*[26]
   - *People with asthma, bronchitis, and emphysema should be cautioned not to use smoked cannabis. People with cardiac disease, alcohol or other drug dependence, or whose illnesses may be exacerbated by cannabis use should be cautioned.*[27]
   - *Cognitive impairment by cannabis may be dose- and age-dependent.*[28]
   - *It is highly likely that cannabis will exacerbate symptoms of poor balance and posture in patients with dyskinetic disorders. Similarly, cannabis may worsen mental faculties in conditions that cause cognitive deficits. Patients who suffer from diseases with neurologic symptomology may show greater cognitive impairment.*[29]
   - *Higher-than-normal blood concentrations of cannabinoids, usually from overconsumption of edible cannabis product, can cause prolonged and often debilitating psychoses or hyperemesis syndrome.*[30]
   - *Cannabinoid receptors are effectively absent in the brainstem cardiorespiratory centers. This is believed to preclude the possibility of a fatal overdose from cannabinoid intake.*[31]
   - *Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the* DSM-5.[32]
   - *Cannabis withdrawal syndrome has been identified as a syndrome seen in some patients whose cannabis use has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months). The withdrawal syndrome has varying symptomatology, including insomnia, loss of appetite, physical symptoms, and restlessness initially, irritability/anger, then vivid and unpleasant dreams after a week.*[33]

c. Variable effects of cannabis are dependent on type of product and route of administration
   - *The only reliably studied method for the administration of nonsynthetic cannabinoids is smoked cannabis. Insufficient evidence exists for vaporized cannabis, edibles, dabbing, etc. However, FDA-approved synthetic THC drugs (dronabinol and nabilone) are administered orally or by an oromucosal route.*[34]
   - *Edible cannabis products may have delayed effects.*[35]
   - *Therapeutic topical applications of cannabis have not been reliably studied. Tinctures have a wide range of possible applications (oromucosal, food additive, tea, etc.) and not all methods of administration have been reliably researched. Patients must be aware that concentrations may vary from those listed and to purchase these formulations from a reliable dispensary.*[36]
   - *Sublingual and mucosal sprays have the benefit of directly accessing the bloodstream. Oromucosal doses have less dosage variability than smoked cannabis and edibles, but are limited by slower absorption and lower rate of THC delivery to the brain.*[37]
   - *Smoked and vaporized cannabis has the advantage of rapid absorption into the bloodstream. Vaporization creates fewer pyrolytic compounds that irritate respiratory tissue. However, both methods show significant loss of active compounds lost to combustion and exhalation.*[38]
   - *Routes of administration other than oral, oromucosal, smoked, or vaporized have not been studied in a clinical setting.*
   - *Butane honey oil (or other oils used for superheated vaporization known as "dabbing"),*[39] *hashish, and other solvent-extracted resins often carry impurities, especially when manufactured by nonprofessionals. These methods of administration have not been adequately studied in a clinical setting.*

d. Principles of dosage titration
   - *Since medical cannabis is not an FDA drug, there is no recommended dosage.*
   - *There is a wide variability of cannabis concentration in different cannabis preparations. Due to this wide variability, principles of dosage titration (start low, go slow) and evaluation of specific effect are beneficial.*

- *Patients will need to titrate their dosage to establish an efficacious and stable dosing schedule over 1 to 2 weeks.*[40]
- *Continual patient assessment of perceived efficacy and adverse effects is recommended. Useful strategies include tracking dose, symptoms, relief, and adverse effects in a journal for review with the authorizing practitioner.*

e. Risks to particular groups of patients
- *Adolescents. Many studies show a correlation between cannabis use and poor grades, high dropout rates, lower income, lower percentage of college degree completion, greater need for economic assistance, unemployment, and use of other drugs.*[41] *Although these trends are related to recreational rather than cannabis for medical use, the trends cannot be ignored but should be balanced with the benefits of cannabis for medical use.*
- *Fertility. Two preclinical studies indicate that interference with endogenous cannabinoids might increase chances of failed embryo implantation*[42] *and cannabinoids are capable of dysregulating hormones, which in turn can affect spermatogenesis.*[43]
- *Neonates. Presently there are no reliable data for neurodevelopmental outcomes with early exposure to cannabis in neonatal life, through either breastfeeding or secondhand inhalation.*[44,45,46]
- *Cannabis can be a drug of abuse and precautions should be taken to minimize the risk of misuse and abuse.*
- *Individuals with a risk of suicide or history of suicide attempt, schizophrenia, bipolar disorder, or other psychotic condition should be cautioned that cannabis use might exacerbate existing psychoses.*[47]

5. The APRN shall be able to recognize signs and symptoms of cannabis use disorder and cannabis withdrawal syndrome.
   - *Cannabis use disorder is defined as a problematic pattern of cannabis use leading to clinically significant impairment or distress; the clinical indications are included in the* DSM-5.[48]
   - *Cannabis withdrawal syndrome has been identified as a syndrome seen in some patients whose cannabis use has been heavy and prolonged (i.e., usually daily or almost daily use over a period of at least a few months). The withdrawal syndrome has varying symptomatology, including insomnia, loss of appetite, physical symptoms, and restlessness initially, then irritability/anger, vivid and unpleasant dreams after a week.*[49]
6. The APRN shall have an understanding of the safety considerations for patient use of cannabis.
   - *Administration of cannabis for medical use can only be carried out by the certified patient and/or designated caregivers registered to care for the patient.*
   - *Cannabinoids have the possibility of altering the metabolic breakdown of certain drugs. Departures from normal drug metabolism can result in higher or lower than expected plasma levels, which can cause dangerous drug interactions.*[50] *Information on possible interactions is available for the synthetic cannabinoids dronabinol and nabilone on the Drug Information Portal.*[51] *The interactions listed in the Drug Information Portal are not exhaustive and not directly transferable to nonsynthetic cannabinoids. Many of the listed interactions are probable interactions, as there are not sufficient studies into cannabinoid interactions.*
   - *Storage considerations include:*
     - *keeping cannabis out of the reach of children, minors, and nonregistered individuals*
     - *storing all cannabis products in a locked area*
     - *keeping cannabis in the original child-resistant packaging*
     - *storing raw cannabis in a cool, dry, place*
     - *following labeling guidelines for storage and expiration dates*
   - *Disposal of unused cannabis products should be completed according to the DEA's Disposal Act.*[52] *Generally, one can locate a collection receptacle via the DEA registration Call Center (800-882-9539).*

Clinical Encounter And Identification Of A Qualifying Condition

1. The APRN shall perform a clinical assessment within the framework of a professional provider/patient relationship during an in-person encounter, including a complete assessment of the patient and a review of diagnostic information in order to identify whether the patient has a condition specified in the MMP.

An in-person encounter is the appropriate setting for a comprehensive and systematic assessment as a foundation for decision making related to the patient's condition and whether the condition meets the qualifying conditions in the particular MMP.

2. The APRN shall review the patient's current treatment for the qualifying condition and the response to that treatment.

Safe practice includes review of treatment history for the qualifying condition and the effectiveness of the past and current treatment.

3. The APRN shall complete a thorough medication reconciliation as well as a review of the jurisdiction's prescription drug monitoring program.

Safe practice includes a thorough review of the medication history, including any potential drug precautions or interactions with cannabis.

4. The APRN shall review the patient's mental health, alcohol, and substance use history and if present, seek a consultation or referral for that use.

Cannabis can be a drug of abuse and precautions should be taken to minimize the risk of misuse and abuse.[53] *Additionally, individuals with a risk of suicide or history of suicide attempt, schizophrenia, bipolar disorder, or other psychotic condition should be cautioned that cannabis use may exacerbate existing psychoses.*[54]

5. The APRN shall gather specific historical and current information regarding the patient's experience with cannabis and discuss the patient's values, preferences, needs, and knowledge related to cannabis use.

Although there is a growing cultural acceptance of cannabis for medical indications, it has long been known as an illegal substance. The negotiation of patient-centered, culturally appropriate, evidence-based goals and modalities of care is necessary in nursing care, especially when discussing medical marijuana as a treatment option.

6. The decision to certify the MMP qualifying condition is not to be predicated on the existence of a qualifying condition alone. The APRN shall consider the available scientific evidence for the specific qualifying condition prior to certifying the qualifying condition including:
   - *present scientific evidence for cannabis use with the specific qualifying condition*
   - *adverse effects according to the patient's clinical presentation*
   - *variable effects of cannabis*
   - *principles of dose titration*
   - *risks to particular groups of patients, such as those of childbearing age, pregnant, neonates, adolescents, and individuals at risk for substance abuse*
7. The APRN shall determine the ongoing monitoring and evaluation of the patient.

Active participation via ongoing monitoring, patient diaries, follow-up appointments, and evaluation of effects and response to medical marijuana is advisable.

Informed and Shared Decision Making

1. The APRN shall provide information to the patient and family members/caregivers regarding:
   - *scientific evidence for cannabis for the qualifying condition*
   - *adverse effects of cannabis use based on the patient's condition and current medications*
   - *variable effects of cannabis*
   - *lack of cannabis product standardization*
   - *principles of dosage titration*
   - *safety considerations for the use of cannabis*
   - *individualized goals of medical marijuana therapy*
     - *Disclose to the patient that the current evidence regarding the medical use of cannabis is largely based on case reports and observational studies. The patient's response to cannabis may be different. Until more clinical evidence is collected, it is difficult to predict how cannabis will affect the patient.*
     - *Medical marijuana is not covered by health insurance and costs can vary depending on the frequency of dosage.*
   - *requirements for ongoing monitoring and evaluation*
     - *Recommendations include active patient participation in ongoing monitoring via patient diary/journal, follow-up appointments, and evaluation of effects and response to cannabis.*
2. Together, the APRN and the patient shall make the decision whether or not to proceed with certifying the qualifying condition.

When all reasonable options have been discussed, and the patient understands the possible outcomes of each option, it is the patient's right to choose the course of care.

Documentation and Communication

1. The APRN shall document the patient assessment, reasoning underlying the therapeutic use of cannabis for the qualifying condition, goals of therapy, means to monitor and evaluate response, and education provided to the patient.

Essential documentation for good clinical communication should specifically include the evidence base for any practice decisions, treatment goals, and patient education.

2. The APRN shall communicate the patient's plan of care for use of medical marijuana to other health team members.

Clear, complete, and accurate documentation in a health record ensures that all those involved in a patient's care have access to information upon which to plan and evaluate their interventions.

Ethical Considerations

1. In addition to ethical responsibilities under the jurisdictional law, the APRN shall approach the patient without judgment regarding the patient's choice of treatment or preferences in managing pain and other distressing symptoms.

Awareness of one's own beliefs and attitudes about any therapeutic intervention is vital, as nurses are expected to provide patient care without personal judgment of patients.

2. The APRN shall take all appropriate steps to ensure that the APRN is not placed in a position where there is or may be an actual conflict, or potential conflict of interest between the APRN and a cannabis dispensary or cultivation center.

A conflict of interest exists when a nurse's personal interests or concerns are or may be perceived as inconsistent with the best interest of the patient (e.g., when an APRN recommends a treatment in which the APRN has a financial stake).

3. The APRN shall not certify a MMP qualifying condition for oneself or a family member.

An emerging conflict of interest in the medical field is when practitioners treat their own family members. The emotional attachment to the patient may cause a practitioner's judgment to be compromised.

Special Considerations

- Follow specific employer policies and procedures, terms of the collaborative agreement, standard care arrangement, and facility policy and procedures regarding certifying a qualifying condition.

Always check with the facility, collaborative agreement, and local Department of Health or MMP for more information on the statutes of your jurisdiction when caring for a patient who can legally use cannabis for medical purposes.[55]

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Quality Research, Evidence of Effectiveness of Medical Cannabis

The research studies in the table below were each evaluated using the GRADE scale (Cochrane Methods Bias, n.d.; "What is GRADE?," 2012), a tool for assessing the quality of evidence, elucidating high, moderate, low, and very low evidence quality. All randomized experimental studies are initially rated as high quality; and observational studies began at low-quality rating. In this assessment, a study loses quality if it has serious risk of bias (from improper blinding of subjects and assessors, nonrandom sorting, patient dropout), confounding factors, imprecision, or inconsistency. Studies gain quality if the data show a large effect or dosage effect, or the study adequately controlled confounding factors.

The table below presents the moderate- to high-quality data asserting a positive effect of cannabis for qualifying conditions. The table preferentially displays therapeutic effects. Adverse effects and/or the absence of effect are not included in this table except for when they add perspective to currently debated therapeutic applications. For example, Hallak and colleagues (2010) detected no effect of CBD on schizophrenia symptomology. This is worth noting because CBD is often described as an antipsychotic (Russo & Guy, 2006), though the details and applicability of this effect continue to be researched.

The table groups the studies according to conditions with significant evidence and are preferentially grouped by qualifying condition. The conditions are listed in **bold** and subcategories are listed in *italics*. For example, Freeman et al., 2006, has data for *Incontinence* as a symptom of Multiple Sclerosis.

The studies are not generalizable. The conclusions of the studies can only be applied to the particular symptoms, conditions, and groups that were studied. The *Results* column notes the condition, symptoms, and sex of the subjects with statistically relevant results. Many of the studies can apply to more than one qualifying condition; when this occurs, those studies are grouped based on the primary qualifying condition of study (i.e., Cachexia instead of HIV).

Study	Drug (Dosage), Delivery	Grade	Results
Cachexia			
Abrams et al., 2003	Cannabis (3.95% THC three doses daily), smoked and dronabinol (3.93% three doses daily), oromucosal	Moderate to low	Smoked and oral cannabinoids not unsafe for HIV patients in short term. Increased weight by fat (smoked, $p = 0.021$; dronabinol, $p = 0.004$). Results applicable to male patients. $N = 62$
Andries, Frystyk, Flyvbjerg, & Støving, 2014	Dronabinol (2.5mg twice daily), orally	Moderate to high	Significant weight gain of 1.00kg during dronabinol vs 0.34kg during placebo ($p = 0.03$). Results applicable to anorexic female patients. $N = 25$
Haney, Rabkin, Gunderson, & Foltin, 2005	Dronabinol (10mg, 20mg, and 30mg), orally and cannabis (1.8%, 2.8%, and 3.9% THC), smoked	Moderate to low	Cannabis and dronabinol significantly increased caloric intake in the low BIA group (10mg and 1.8% THC $p < 0.005$, 30mg and 3.9% $p < 0.01$) but not in the normal BIA group. Results applicable to male patients. $N = 29$
Haney et al., 2007	Cannabis (2.0%, 3.9% THC four times daily), smoked and dronabinol (5mg, 10mg four times daily), orally	High to moderate	Cannabis (3.9% THC) improved ratings of sleep ($p < 0.005$) in HIV patients. Dronabinol ($p = 0.008$) and cannabis ($p = 0.01$) dose dependently increased caloric intake by increasing the number of eating occasions, resulting in improved weight via fat gain. Results applicable to male patients. $N = 10$
Timpone et al., 1997	Dronabinol (2.5mg twice daily), orally	Moderate to low	Megestrol acetate showed greater weight gain than dronabinol ($p = 0.0001$) and combining the two did not lead to additive weight gain in patients with HIV. $N = 39$

(continued)

Study	Drug (Dosage), Delivery	Grade	Results
Cancer			
Johnson et al., 2010	THC:CBD (22mg–32mg/day THC, 20mg–30mg/day CBD), oromucosal	Moderate to low	THC:CBD caused 30% reduction in pain from baseline in patients unresponsive to opioids. THC:CBD patients used a median oral morphine dose lower than other treatments. THC:CBD had a significantly improved constipation score. (OR THC:CBD = 2.81, $p = 0.006$) $N = 177$
Chronic Pain			
Narang et al., 2008	Dronabinol (10mg and 20mg THC), orally	Moderate	Total pain relief at 8 hours (TOTPAR) improved (20mg $p = 0.01$, 10mg $p = 0.05$). Evoked pain (ESPID) decreased (20mg, 10mg $p < 0.05$). Significant reduction of pain over time (baseline vs week 2, $p = 0.01$; week 1 vs week 3, $p = 0.05$; week 2 vs week 4, $p = 0.05$). $N = 30$
Rheumatoid Arthritis			
Blake, Robson, Ho, Jubb, & McCabe, 2006	Sativex (max 6 doses daily), oromucosal	Moderate to low	Improvements in morning pain on movement ($p = 0.044$), morning pain at rest ($p = 0.018$), quality of sleep ($p = 0.027$), (DAS28 $p = 0.002$), and pain at present ($p = 0.016$). Results applicable to female patients. $N = 31$
Epilepsy			
Dravet syndrome			
Devinsky et al., 2017	CBD (20mg/kg/day), oromucosal	High to moderate	CBD decreased the median frequency of convulsive seizures per month (compared to placebo, $p = 0.01$). The Caregiver Global Impression of Change scale showed improvement in 62% of the CBD group (from baseline, $p = 0.02$). The frequency of total seizures of all convulsive types was reduced ($p = 0.03$). $N = 120$
Lennox-Gastaut syndrome			
Thiele et al., 2018	CBD (20mg/kg/day), orally	High	CBD decreased the median percentage of monthly drop by 43.9% (estimated median difference between placebo $p = 0{\cdot}013$). Monthly frequency of total seizures decreased by a median of 41·2% from baseline with CBD (difference from placebo $p = 0{\cdot}0005$). $N = 171$
Fibromyalgia			
Sleep			
Ware, Fitzcharles, Joseph, & Shir, 2010	Nabilone (0.5mg daily), orally	High	Improved sleep over amitriptyline 10mg (Insomnia Severity Index, adjusted difference = -3.25; CI, -5.26 to -1.24), marginally better on restfulness (difference = 0.48; CI, 0.01 to 0.95). Results applicable to female patients. $N = 29$
Pain			
Skrabek, Galimova, Ethans, & Perry, 2008	Nabilone (2mg daily), orally	Moderate to high	Significant decreases in the VAS ($p < 0.02$), Fibromyalgia Impact Questionnaire ($p < 0.02$), and anxiety ($p < 0.02$) at 4 weeks. $N = 40$*
HIV/AIDS			
Neuropathy			
Abrams et al., 2007	Cannabis (3.5% THC), smoked	Moderate	>30% reduction in pain from baseline ($p = 0.04$). 34% median reduction in chronic neuropathic pain (VAS $p = 0.03$). >30% reduction in pain was reported by 52% in the cannabis group (comparable to oral drugs used for chronic neuropathic pain). Results applicable to male patients. $N = 50$
Ellis et al., 2009	Cannabis (1%–8% THC), smoked	High	Decrease in pain intensity (Descriptor Differential Scale $p = 0.02$). 46% of cannabis patients achieved at least 30% pain relief. Results applicable to male patients. $N = 27$

Study	Drug (Dosage), Delivery	Grade	Results
Multiple Sclerosis			
Aragona et al., 2009	Sativex (average 15 doses daily), oromucosal	Moderate to low	Did not induce psychopathology and did not impair cognition. At dosages higher than those used, interpersonal sensitivity, aggressiveness, and paranoiac features might arise. *N* = 17
Collin, Davies, Mutiboko, & Ratcliffe, 2007	Sativex (max 48 doses daily), oromucosal	Moderate	Spasticity improved (NRS $p = 0.048$) and 40% of patients achieved >30% benefit ($p = 0.014$). *N* = 184
Collin et al., 2010	Sativex (max 24 doses daily), oromucosal	Moderate to low	In the per-protocol analysis, 36% achieved at least a 30% improvement in NRS spasticity scores ($p = 0.04$). N = 177
Corey-Bloom et al., 2012	Cannabis (4%THC), smoked	High	Significant decrease in modified Ashworth ($p = 0.001$), subjective pain score ($p = 0.008$), and highness ($p = 0.001$). *N* = 30
Vaney et al., 2004	Cannabis extract (2.5mgTHC, 0.9mg CBD. Max 30mgTHC daily), orally	Moderate	Lowered spasm frequency and improved mobility results not statistically significant. *N* = 57
Wade, Makela, Robson, House, & Bateman, 2004	Sativex (2.5mg–120mg daily), oromucosal	Moderate to low	Spasticity reduced (VAS $p = 0.001$). Improvement in quality of sleep ($p = 0.047$), and Guy's Neurological Disability scale scores ($p = 0.048$). *N* = 160
Wade, Collin, Stott, & Duncombe, 2010	Sativex (N/A), oromucosal	Moderate to low (pooled data)	~1/3 of patients gain at least a 30% improvement from baseline. A greater proportion of treated patients responded to the treatment (OR = 1.62, $p = 0.0073$), treated patients reported greater improvement (OR = 1.67, $p = 0.030$). *N* = 666
Zajicek et al., 2003	Cannabis extract (2mg–5mg THC, 1mg–25mg CBD per capsule), orally	High	Improvements in spasticity (Ashworth $p = 0.01$), pain ($p = 0.002$), sleep ($p = 0.025$), and spasms ($p = 0.038$). *N* = 657
Zajicek et al., 2012	Cannabis extract (5mg–25mg THC daily), orally	High to moderate	Relief from stiffness after 12 weeks (OR 2.26, $p = 0.004$). Rating scales had significant difference in muscle stiffness, body pain, muscle spasms, sleep quality at week 4 and increasing significance on week 8 for stiffness and body pain, and an increase in significance for spasms in week 12, but a decrease in significance in sleep and body pain (became nonsignificant) in week 12 (all significance values at least $p < 0.025$). *N* = 277
Multiple Sclerosis			
Neuropathies			
Langford et al., 2013	Sativex (max 12 doses daily), oromucosal	Moderate	At the end of the treatment, a significant difference in pain score (NRS $p = 0.028$) and sleep quality (NRS $p = 0.015$). *N* = 339
Turcotte et al., 2015	Nabilone (1mg twice daily), orally	Moderate to low	Significant differences in pain intensity (VAS $p = 0.01$). Patient perceived benefit higher with nabilone and gabapentin ($p < 0.05$). Results applicable to female patients. *N* = 15
Incontinence			
Freeman et al., 2006	Cannabis extract (2.5mgTHC with 1.25mg CBD or 2.5mg THC. Max 25mg daily), orally	High	Both treatments improved incontinence (cannabis extract, $p = 0.005$;THC, $p = 0.039$). Pad weight reduced in both treatments ($p = 0.001$). *N* = 630
Kavia, De Ridder, Constantinescu, Stott, & Fowler, 2010	Sativex (max 8 doses in 3 hr and 48 doses in 24 hr), oromucosal	Moderate to low	Patients failed to respond to anticholinergics before study. Significant differences in number of episodes of nocturia ($p = 0.010$), bladder capacity (Ordinary Bladder Capacity $p = 0.001$), number of voids/day ($p = 0.001$) total number of voids ($p = 0.007$), impression of change (Patient's Global Impression of Change $p = 0.005$), number of daytime voids ($p = 0.044$). Size of effect was greater for more severely affected subjects. Results applicable to female patients. *N* = 135

(continued)

Study	Drug (Dosage), Delivery	Grade	Results
Chronic Pain			
Rog, Nurmikko, Friede, & Young, 2005	Cannabis extract (2.5mg THC with 2.5mg CBD. Max 48 doses daily), oromucosal	High to moderate	Improvements in pain (NRS-11, $p = 0.005$; Neuropathic Pain Scale, $p = 0.044$) and sleep disturbances ($p = 0.003$). Treatment effect comparable to tramadol and pregabalin in treatment of peripheral neuropathic pain. Results applicable to female patients. $N = 66$
Svendsen, Jensen, and Bach, 2004	Dronabinol (max dose 10mg daily), orally	Moderate	Median spontaneous pain intensity lowered ($p = 0.02$) and pain relief score rose ($p = 0.035$). Number Needed to Treat = 3.5 (poor outcome) for 50% pain relief. $N = 24$
Nausea/Vomiting			
Meiri et al., 2007	Dronabinol (2.5mg–20mg daily), orally	Moderate to low	Nausea absence was significantly greater in active treatment groups ($p < 0.05$). Nausea intensity and vomiting/retching lowest with dronabinol. Dronabinol and ondansetron are similarly effective for chemotherapy-induced nausea and vomiting. Combination therapy with dronabinol and ondansetron was not more effective than either agent alone. $N = 61$
Söderpalm, Schuster, & de Wit, 2001	Cannabis (8.4mg and 16.9mg THC), smoked	High to moderate	Acute feelings of nausea were reduced (8.4mg $p < 0.05$, 16.9mg $p < 0.01$) and emesis was also decreased ($p < 0.05$). The higher dose of marijuana significantly reduced nausea at 20 min. However, its effects are very modest relative to ondansetron ($p < 0.05$). $N = 13$
Neuropathies			
Frank, Serpell, Hughes, Matthews, & Kapur, 2008	Nabilone (max 2mg daily), orally	Moderate to low	Dihydrocodeine is a better analgesic than nabilone (VAS $p = 0.01$). A small number of patients responded well to nabilone. $N = 96$ (33 of the 96 dropped out)
Karst et al., 2003	CT3 (a potent analog of THC-11-oic acid) (max 40mg and 80mg daily), orally	Moderate	Reduced pain 3 hours after intake (VAS $p = 0.02$). $N = 21$
Nurmikko et al., 2007	Sativex (max 48 doses daily), oromucosal	High to moderate	Significant decrease in pain (NRS $p = 0.004$). $N = 125$
Wallace et al., 2007	Cannabis (4%, 8% THC), smoked	High	4% THC produced delayed analgesia (Visual Analogue Scale of Pain Intensity $p = 0.027$), 8% THC cannabis produced an increase in pain (Visual Analogue Scale of Pain Intensity $p = 0.009$) after 45 minutes. $N = 19$
Ware, Wang et al., 2010	Cannabis (2.5%, 6%, and 9.4% THC, three times daily), smoked	High	Participants receiving 9.4% reported a lower average daily pain intensity (NRS $p = 0.023$), improved ability to fall asleep (easier, $p = 0.001$; faster, $p < 0.001$; more drowsy, $p = 0.003$), and improved quality of sleep (less wakefulness, $p = 0.01$). Anxiety and depression were improved with 9.4% (EQ-5D questionnaire $p < 0.05$). $N = 23$
Wilsey et al., 2008	Cannabis (7% THC or 3.5% THC), smoked	High	Decrease in pain (VAS $p = 0.02$). Equal anti-nociception at every time point with no difference between the doses over time ($p = 0.95$). Significant differences in measures of unpleasantness ($p < 0.01$) and global impression of change ($p < 0.01$). $N = 38$
Wilsey et al., 2013	Cannabis (3.53% or 1.29% THC), vaporized	Moderate to high	1.29% as effective as 3.53% THC in pain relief. Increasing cumulative analgesia over time (180 min $p < 0.0001$, 240 min $p = 0.0004$, 300 min $p = 0.0018$); analgesia remained stable afterward. Decreased levels of sharpness, burning, aching pain (both doses $p < 0.001$). 1.29% THC more effective for burning pain ($p < 0.0001$); significantly reduced aching more than the 3.53% THC and placebo ($p < 0.0001$). $N = 39$

Study	Drug (Dosage), Delivery	Grade	Results
Neuropathies *(continued)*			
Diabetes			
Wallace, Marcotte, Umlauf, Gouaux, & Atkinson, 2015	Cannabis (1%, 4%, or 7% THC), vaporized	Moderate	There was a modest reduction in spontaneous pain (% reduction in pain: placebo, 61.2%; 1% THC, 66.7%; 4% THC, 70.3%; 7% THC, 65.5%, $p < 0.001$ for all). $N = 16$
Posttraumatic Stress Disorder			
Jetly, Heber, Fraser, & Boisvert, 2015	Nabilone (0.5mg–3mg at bedtime), orally	Moderate	Reduction in nightmares (CAPS Recurring and Distressing Dream scores $p = 0.03$), improved global impression of change (Clinical Global Impression of Change $p = 0.05$) and general well-being (General Well-Being Questionnaire $p = 0.04$). Results applicable to male patients. $N = 10$
Schizophrenia			
Hallak et al., 2010	CBD (300mg or 600mg), orally	Moderate	Single dose showed no effects on symptomology. $N = 28$
Spinal Cord Injury			
Pooyania, Ethans, Szturm, Casey, & Perry, 2010	Nabilone (max 1mg daily), orally	Moderate to low	Decrease in the spasticity (Ashworth "most involved muscle group" $p = 0.003$) and total Ashworth ($p = 0.001$). $N = 11$
Tourette Syndrome			
Müller-Vahl et al., 2002	THC (5mg, 7.5mg, 10mg), orally	Moderate to low	Significant improvement of self-reported tics (Tourette's Syndrome Symptom List $p = 0.015$) and obsessive compulsive behavior ($p = 0.041$). Objective scores showed improvement in simple motor tics ($p = 0.026$), complex motor tic ($p = 0.015$), all motor tics (simple and complex motor tics) ($p = 0.026$), and complex vocal tics ($p = 0.041$). Results applicable to male patients. $N = 12$

Notes

1. Brand-name and generic-name drug dosages:
   - Sativex (2.7mgTHC, 2.5mg CBD)
   - Dronabinol (2.5, 5, or 10mgTHC)
   - Nabilone (1mgTHC)
2. If dosage schedule is not mentioned (i.e., daily, twice daily, at bedtime, max in 24 hr), then the study only assessed a single dose.
3. An effect is considered statistically significant if the p value is greater than or equal to 0.05. Other significant effects are noted by confidence intervals, effects, and ratios (Page, 2014).
4. If more than 75% of patients in a study are one sex, then results are applicable to that sex. An * denotes that sex proportion of patients is not given.

Abbreviations

BIA = bioelectrical impedance analysis; CBD = cannabinol; CI = Confidence Interval; DAS = Disease Activity Score; NRS = Numerical Rating Scale; OR = Odds Ratio; VAS = Visual Analogue Scale; THC = tetrahydrocannabinol.

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SB0587.pdf
Uploaded by: Dawn Marie Steenstra
Position: FAV

SB0587
Favorable

Dawn-Marie Steenstra
1749 Algonquin Road Frederick, Maryland 21701
410-967-3183

Dear Esteemed Senators,

I am currently a Clinical Director of Dispensaries for Maryland representing the National Clinical Director Consortium since 2021, and a Clinical Cannabis Nurse for the past decade. I oversee hundreds of patients in multiple stores to evaluate their health conditions and distressing symptoms from a trained clinical / medical viewpoint. I also perform medication reconciliation to determine safety/side effects when taken with other pharmaceuticals and expected outcomes of cannabis for their conditions. As a community nurse in the field for 24 years who has been studying cannabinoid therapeutics for the past 12 years, it is important for the Legislature to understand that although in the adult use market there will be plenty of recreational customers, there are thousands of prospective patients that wish to use this alternative to avoid health care crisis and increase their quality of life.

In evaluating other states who have Adult Use Programs, it seems that as adult use legislation has been enacted that the very patients to whom the entire cannabis industry is built upon are being left without critically needed guidance and formulations created to help their conditions. I care for autistic and epileptic children, middle aged cancer, pain and neurologically challenged adults to our most underserved population of the elderly. Our elderly are actively looking to decrease harm and polypharmacy in their daily lives. This population alone warrants oversight from medical professionals. These patient populations deserve guidance from experienced clinicians, continuity of care inpatient and product choices over the long term.

I support SB0587 with the following considerations and information:

The SB0516 Cannabis Reform Bill already allows for inpatient care with cannabis and legal protection of professional licenses.

It is important for inpatient nurses to understand that the National Council of State Boards of Nursing have set forth a mandate for nurses to be educated and able to work with patients in an inpatient setting utilizing cannabis for conditions. (See additional upload file NCSBN Guidelines) The ethical dilemma of a nurse concerned for her professional license is unwarranted.

Continuity of patient care is critical for the cannabis patient who has spent considerable time and effort to wean off many pharmaceuticals to increase their quality of life. When beset by an emergency, we have seen terrible outcomes, especially children who have been weaned off many antiseizure medicines only to be put back on these due to prohibition of cannabis formulations in hospitals. It takes MONTHS to wean from many of these common drugs! The same is true for patients who have successfully weaned from narcotics and many other medications. Denying them their chosen treatment is an assault on their body and a denial of patient rights given to them by state officials.

Cannabis science is catching up quickly with the anecdotal evidence in harm reduction and lessening of prescriptions across the country.

Please evaluate this Policy from the New York Hebrew Home that allows cannabis inpatient. (See attached)

I applaud the Legislature in including inpatient use of cannabinoid formulations in our Reform of Cannabis.

Thank you for your consideration,

Dawn-Marie Steenstra LPN,SDC,QA,SCC

1749 Algonquin Road

Frederick, Maryland 21701

410-967-3183 Mobile

ADVOCACY CHAIR

The National Clinical Director Consortium

Written Testimony SB 587 Fav 2023 Finance.pdf
Uploaded by: Kevin Merillat
Position: FAV

March 8, 2023

RE: Senate Bill 1135 – Health Care Facilities – Use of Medical Cannabis
Position: Favorable

Kevin D. Merillat, MBA, MS
345 Madeline Drive
Saint Leonard, Maryland 20685

Dear Honorable Members of the Senate Finance Committee:

I am writing today in favor of SB 587 / HB 1135. The State of Maryland has recognized cannabis as an essential medicine, and now it is time to adjust our local laws to meet this new reality. I would prefer hospital and long-term patients to have access to a ligand that has the least possibility of addiction or bodily harm from the medication itself. The ability for a Maryland resident to choose cannabinoid therapy over highly addictive drugs such as opioids has been paramount in fighting our opioid epidemic. Having earned a Master of Science Degree from the University of Maryland in Medical Cannabis Science and Therapeutics, we have extensively studied the negative effects that can arise from cannabis use, and it is true that cannabis is one of the least toxic drugs in existence representing a minimal risk to those that utilize it. We have also studied the case for edibles and the biphasic reactions to cannabis, but the fact remains that NO person has ever suffered death as the result of cannabis toxicity making cannabis one of the safest ligands (drugs) in existence. No person should be discriminated against in a medical setting for choosing a legal and safe medication that has proven efficacy with minimal side effects compared to opiate and other pain management and mental illness medications. In addition, a person should not be forced to abandon a viable medication or hide the use of a medication from those administering medical care.

The fear of violating federal law is currently unfounded due to the Cole Memo and the priorities it places on cannabis enforcement. In addition, the Controlled Substance Act – 21 U.S.C. Section 903 states that "No provision of this subchapter shall be construed as indicating an intent on the part of the Congress to occupy the field in which that provision operates, including criminal penalties, to the exclusion of any State law on the same subject matter which would otherwise be within the authority of the State, unless there is a positive conflict between that provision of this subchapter and that State law so that the two cannot consistently stand together." There is no positive conflict nor precedents for State legal operations of medical cannabis programs being prosecuted for operations that are in accordance with state law, and no precedent has been set withholding federal funds from institutions that act with in the state law. Furthermore, the principal of Federalism and the 10th Amendment clearly indicate "Powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively…" and, the Anti-Commandeering Doctrine provides further protection to State of Maryland concerning preemption of State law. In other words, the

Federal Governments inaction concerning cannabis should not be cause for Maryland not to act in the best interests of its citizens.

Senate Bill 587 and/ House Bill 1135 will provide Maryland citizens with a voice in their recovery while in a hospital or long-term facility from forcing them to break current treatment and use more harmful traditional medications that are addictive and have long-term side effects such as liver damage. A recent study published in PubMed.gov states that "Among study participants, medical cannabis use was associated with a 64% decrease in opioid use." [1] Cannabis is proven to treat many disease states and, is a legally recommended drug in the State of Maryland and should be included as a means of treatment for medical cannabis patients in a hospital or long-term care facility. Please allow past stigma's surrounding cannabis to expire as we move towards ending the prohibitions and realizing the full potential cannabis can offer.

Best Regards,

Kevin D. Merillat, MBA, MS
kmerillat@umaryland.edu
202-439-3266

References:

1. Boehnke KF, Litinas E, Clauw DJ. Medical Cannabis Use Is Associated with Decreased Opiate Medication Use in a Retrospective Cross-Sectional Survey of Patients with Chronic Pain. *J Pain*. 2016;17(6):739-744. doi:10.1016/j.jpain.2016.03.002

Paloma Lehfeldt MD Testimony SB0587.pdf
Uploaded by: Paloma Lehfeldt
Position: FAV

Finance Committee
Chair Senator Melony Griffith
3 East
Miller Senate Office Building
Annapolis, Maryland 21401

March 8th, 2023

TO ALL MEMBERS OF THE MARYLAND LEGISLATURE,

I write on behalf of MaryMed, LLC and Vireo of Charm City, LLC (together "**Vireo**") — both of which are current medical cannabis licensees in Maryland doing business under the trade name "Green Goods" — to voice my support of Senate Bill 0587. We support the requirement of certain health care facilities to allow a qualifying patient with a certain written certification to consume medical cannabis within the health care facility.

As a physician with a background in neuropsychiatric research, and over four years working with cannabis patients across the country as an employee of the physician-founded Maryland medical cannabis company Vireo Health of MD, I applaud this bill.

National support for allowing medical cannabis is strong: 76% of doctors, 93% of Americans, and 83% of veterans support its legal medical use. Regardless of our personal opinions, our friends and families, patients and peers are already making decisions about cannabis. According to the Maryland Medical Cannabis Commission's 2023 Survey, nearly 10% of Marylanders are utilizing cannabis, 30% of which report using cannabis for medical reasons. Last year over 162,000 Marylanders registered for their medical cannabis card for medical conditions that often require admission to a health care facility. It is not acceptable that upon admission they no longer have access to the medicine which they have been utilizing to treat conditions ranging from anxiety to chronic pain to terminal cancer.

Additionally, the same 2023 survey reported that 12% of medical cannabis patients reported that they utilized their plant medicine to reduce, replace, or stop the use of opioids- a pharmaceutical readily available in health care facilities that according to the CDC was responsible for 75% of the nearly 92,000 drug overdose deaths in 2020. Cannabis was responsible for 0%.

We encourage you to pass this bill to ensure that the hundreds of thousands of Marylanders already utilizing cannabis to treat their acute and chronic conditions have continued access to their medicine in health care facilities across the state.

Sincerely,

Paloma Lehfeldt, M.D., M.A.
Senior Director of Clinical Science
MaryMed, LLC & Vireo of Charm City, LLC

Senate bill 587 testimony.pdf
Uploaded by: Renee Reisinger
Position: FAV

Maryland legislative session 2023, HB 1135 and SB 587

Supporting the Compassionate Access to Medical Cannabis Act

Plant cannabis is medicine. Our federal agency says it is. The Department of Health and Human Services (HHS) funded cannabis research in Israel, decades ago. The research results, discovered by Israeli scientist, Dr. Raphael Mechoulam and his research team, were so strong, the United States federal HHS placed a patent on cannabidiol (CBD). CBD is a chemical constituent (one of many) in the cannabis plant. This patent is dated October 7, 2003.

Most of the research supporting cannabis constituent, CBD was completed by this Israeli team, lead by Dr. Raphael Mechoulam, and funded by the US federal government. (Click hyperlink US6630507B1 - Cannabinoids as antioxidants and neuroprotectants - Google Patents)

Cannabinoids have been found to have antioxidant properties, unrelated to NMDA receptor antagonism. This newfound property makes cannabinoids useful in the treatment and prophylaxis of wide variety of oxidation associated diseases, Such as ischemic, age-related, inflammatory, and autoimmune diseases. The cannabinoids are found to have particular application as neuroprotectants, for example in limiting neurological damage following ischemic insults, such as Stroke and head trauma, or in the treatment of neurodegenerative diseases, Such as Alzheimer's disease, Parkinson's disease and HIV dementia. Non psychoactive cannabinoids, such as cannabidiol, are particularly advantageous to use because they avoid toxicity that is encountered with psychoactive cannabinoids at high doses useful in the method of the present invention. A particular disclosed class of cannabinoids useful as neuroprotective antioxidants is formula (I) wherein the R group is independently Selected from the group consisting of H, CH, and COCH.[1]

Cannabis is medicine and the US government acknowledges this, by placing a patent on part of the plant. How can this plant medicine continue to be a federally illegal schedule one class drug? Patients are being denied easy access to this healing modality. Clearly, the research has been done. Myth buster: we need

more research. Indeed, there is solid, peer reviewed research, as demonstrated by the above US patent. Also, the International Alliance for Cannabinoid Medicines (IACM Homepage | IACM (cannabis-med.org) never stopped the research. Another organization founded in the United States, the Society for Cannabis Clinicians SCC SCC Library - Society of Cannabis Clinicians), has a plethora of excellent peer reviewed cannabinoid (cannabis) research. Indeed, the research is there.

In summation, regarding research, while the United States continued with the decades of cannabis illegalization, much of the world's scientific and medical clinicians, continued to explore cannabis as medicine. The research is peer reviewed and compelling.

The human endocannabinoid (ECS) system? Yes, discovered by scientists in 1988. Yet, few US medical, nursing and pharmacy schools educate our emerging professionals about this master regulator of every other body system. This is the essence of why plant cannabis promotes, health, wellness and reduces disease burden. Every cell in our body, as we now know, has a CB1, CB2 receptor, primed to process and transmit our own human body's anandamide (chemically similar to plant TCH) and 2 Arachidonoyl glycerol (2 AG, chemically similar to plant CBD). Through the constantly changing needs of our human ECS, these chemicals and receptor sites are in a constant state of flux, to maintain wellness/or homeostasis, within our human body. Now that we know this, the stigma and illegalization of plant cannabis, needs to cease. We would never shame a diabetic for using insulin. The shame and stigma of using plant cannabis needs to stop. Imagine a hospital system that would not allow a diabetic to utilize insulin, or to bring in their own insulin for use. Preposterous!

> "The human endocannabinoid system (ECS) is the master tone-setter (regulator) of the human body. Anandamide and 2-AG (2-Arachidonolyglycerol) are neuromodulators, in that they work by a process called 'retrograde signaling' Conventional neurotransmitters-serotonin, dopamine, etc. -cross the gap (synapse) between a 'presynaptic' sending cell and a 'postsynaptic' receiver cell. Endocannabinoids are made on demand in the post synaptic neuron and sent back across the synapse to tell the sending cell to tone it down or speed it

up. Endocannabinoids, (Anandamide and 2-AG) send their stay-on-an-even-keel signals in systems that regulate appetite, movement, learning (and forgetting), perception of pain, immune response and inflammation, neuroprotection, and other vital processes. Think of a conductor facing an orchestra and directing the tempo and volume at which the instruments produce their sounds." [2]

Furthermore, "At the 2013 meeting of the International Association for Cannabinoid Medicine, Dr. Raphael Mechoulam approvingly quoted a paper that conclude "modulating endocannabinoid activity may have therapeutic potential in almost all diseases affecting humans." [3]

Moving away from the science of plant cannabis, we enter the political realm. Whom is in charge? Maryland Legislators created a high-quality medical cannabis program. This program launched in December 2017, via the Maryland Medical Cannabis Commission (MMCC (maryland.gov). It was orchestrated by the passage of the 2014 Natalie LaPrade medical cannabis legislation (Cannabis [Marijuana] Commission, Maryland Natalie M. LaPrade Medical - Origin & Functions). Our Maryland legislators have already completed the hard work to allow medical cannabis use in Maryland. Sadly, and unbeknownst to most, Maryland health care conglomerates have under minded the spirit of this legislation.

The legislation noted above, never forbid the use of medical cannabis in our health care facilities. This is the work of health care conglomerates. The continuing Maryland hospital policy, which forbids the use of medical cannabis and discourages/dictates that providers with privileges to practice at these facilities, do not discuss cannabis medicine with their patients. These cannabis forbidding polices create a disconnect, between a medical cannabis patient's access to their plant medicine, while receiving often necessary acute care treatments and procedures. It also creates a disconnect between the patient/provider relationship, by dictating science based treatment modalities from being discussed. Cannabis medicine is a first line treatment option for many diseases, and relief of disease symptoms. Cannabis use should be just one, of many first line treatment options that patients and providers discuss. Immeasurable harm and suffering have been caused and are continuing, because

of the hospital and health systems policy. This was clearly not the intent of the Maryland legislators in 2014.

Again, whom is in charge? The Maryland for profit health care systems? Or the Maryland legislators?
Per our beloved Maryland congressman, Elijah Cummings, "We are better than this. We are so much better!"
Please consider passage of this bill to promote health and ease disease suffering of our population.

Renee Reisinger MS, Nurse Practitioner, University of Maryland School of Nursing and School of Pharmacy master's degree programs, Medical Cannabis Science and Therapeutics program, 2021, Inaugural graduating class.
Board member:
Veteran Initiative 22
Maryland Chapter, Americans for Safe Access
Jessilove.org Jessilove | Subsidizing Alternative Medicine First federally approved 501 c 3 non profit with the sole goal to fund medical cannabis use for underserved populations (hospice, veterans, economically deprived).

References

1 The United States of America as represented by the Department of Health and Human Services, Washington, DC (US). United States Patent, Hampson et al. Patent No.: Us6,630,507 B1. October 7, 2003. Accessed March 3, 2023. 14990797506328224 24-06630507 (storage.googleapis.com)

2 Cervantes, Jorge. *The Cannabis Encyclopedia*. 3rd ed. Van Patten Publishing. USA. 2015. Page 19.

3 Cervantes, Jorge. *The Cannabis Encyclopedia*. 3rd ed. Van Patten Publishing. USA. 2015. Page 19.

Richard Bond testimony **Compassionate Access t**

Uploaded by: Richard Bond

Position: FAV

Compassionate Access to Medical Cannabis Act
House Bill 1135 and Senate Bill 587

My name is Staff Sergeant Richard A. Bond retired Army. I'm also associated with Veteran's Initiative 22 and a board member, Maryland chapter of Americans for Safe Access.

I'm here today advocating with the Connor Sheffield Foundation, supporting this bill. This is important because it allows patients that are getting a better quality of life, using cannabis, to continue the cannabis use in hospitals and other health care facilities.

It was never banned by the Maryland Medical Cannabis Commission, from use in health care facilities, such as our Maryland Hospitals. My understanding is that in 2018, the Maryland Hospital Association in conjunction with most of our hospital systems, took it upon themselves to forbid patients to bring medical cannabis into these facilities. They also directed providers with hospital privileges from discussing cannabis as medicine with their patients.

These policies were put into place without the knowledge or approval of the Maryland Legislators. For the most, the public was and is unaware that this harmful police is currently in place. Because this policy is in place many medical cannabis users that need acute care, forego it, because they don't want to get back on opioids or other medicines and treatment that cause them to feel worse, not better. Cannabis is giving patients a better quality of life, as you have sat here and listened real patient stories.

The Maryland legislature, patients and patient families, should not be here today, advocating for medical cannabis access in our health care facilities. It was never the spirit of the Maryland Medical Commission, for the Maryland Hospital Association, to take it upon themselves to cause this very real harm to our Maryland constituents.

This is a case of David and Goliath. Who makes these public health decision for our population. Wealthy special interest groups or duly elected officials in the Maryland Legislature? This wrong needs to be corrected. Please support this bill.

Thank you!

SB587_fav.pdf
Uploaded by: Rusty Carr
Position: FAV

SB587 Favorable
Warren (Rusty) Carr
4391 Moleton Drive
Mount Airy, MD 21771

I support SB587.

My mother's health care provider is Kaiser Permanante. Kaiser does not recognize cannabis as legitimate health care because of its Federal status. Kaiser doctors told my mother that there was no medical treatment available for her pain. This bill would force Kaiser to recognize cannabis as legitimate health care and allow my mother to continue her medical cannabis treatments should she need hospital care. She's 91. She will need this bill soon. She needed emergency care today March 8th.

Thank you,
Rusty Carr

SB0587 Letter.pdf
Uploaded by: Shanetha Lewis
Position: FAV

VETERANS INITIATIVE 22

Because We C.A.R.E

Testimony on Maryland Senate Bill 0587

Health Care Facilities – Use of Medical Cannabis

TO: Senator Melanie Griffith Chair, and Senate members of the Economic Matters Committee
FROM: Shanetha Lewis, Veterans Initiative 22, Executive DIrector
DATE: 3/08/2023
POSITION: Support

Veterans Initiative 22 is a 501(c)(3) non-profit organization that focuses on helping Veterans, Family and First Responders by providing resources, employment opportunities, and continuously advocating for rights and access to affordable cannabis and Veteran rights. VI 22 was named as such after the estimated 22 Veterans who commit suicide daily due to PTSD, and it is our organization's goal to bring national awareness to this tragedy, while also working to improve the lives of Veterans across the country.

Additionally, we actively seek and advocate for more Veteran employment opportunities within the cannabis, alternative medicine, and holistic wellness industries. We invite businesses and organizations to evaluate hiring processes, business practices, and keep Veterans in mind; as they are, without a doubt, valuable assets to any organization.

Please note our strong **support** for this bill. For the following reasons:

First I want to say thank you for the opportunity to submit my testimony in support of SB. My name is Shanetha Marable Lewis and I hold a Master's degree in Medical Cannabis Science and Therapeutics from the University of Maryland School of Pharmacy, I am proud Army combat veteran, spouse of a 20 year retired Army combat veteran, and I am also the Executive Director of Veterans Initiative 22, a non-profit organization named as such in honor of the previously estimated 22 veterans who commit suicide daily. I say previously as a more recent study has sadly increased that amount to twice that of 44 veterans a day. The main factor that led to such a gross underestimation was the omission of the veteran deaths that were attributed to intentional opioid overdoses. Opioids are the number one prescribed medication for PTSD symptoms. This is important and ironic

because veterans are twice as likely than that of the civilian population to be vulnerable to both suicide and to overdose.

As I wrote this testimony the word I found myself unsurprisingly circling back to was “Mission”, Then I contemplated on how does this bill advance VI22’s mission and the MGA mission to enact laws necessary for the welfare of the state’s citizens, and also the MHA mission through collective action to advance health care and the health of all Marylanders. This bill expands compassionate access to medical cannabis in a hospital facility to the 24% of combat veterans who suffer from PTSD, it increases patient welfare as it eases the fears of eventual hospitalization to the one in 5 veterans who are already using medical cannabis for PTSD symptoms 3x more likely to experience relief than that of those whom do not use cannabis, it advances the mental and physical health of PTSD sufferers by offering alternative viable therapeutic options to the one in 9 veterans that reportedly receive no relief of symptoms from existing pharmacotherapies, it offers dignity in death to those veterans whom approaching the end stages of life, it has the potential to advance the healthcare of all Marylanders by opening up opportunities for medical cannabis research and 92% of veteran families that only support but are requesting such studies. Relief from the painful experience of being forced to choose between not only extended in person treatment, but something that we consider a simple procedure to them is far more complex, when it doesn’t have to be. Finally, this bill honors the 83% who have served and sacrificed, that support medical cannabis, by offering them the autonomy over their medical care and treatments that they have so rightly earned.

Again I thank you for your time in reading my testimony and for your consideration of my position. Cannabis is medicine and access to cannabis improves lives!

We urge a favorable report on SB0587

Thank You,

Shanetha Lewis
Veterans Initiative 22
Executive Director
304-322-6384
info@vetransinitiative22.com

Because We C.A.R.E

4736 Vancouver Rd Baltimore, Maryland 21229 (410) 660-3198

SENATE BILL 587.pdf
Uploaded by: Warren Lemley
Position: FAV

CORPORATE OFFICES
8270 Greensboro Drive, Suite 810
McLean, Virginia 22102
703.883.0102

WELLNESS CENTER
2001 Chapman Ave.
Rockville, MD 20852

March 8, 2023

Senate Bill 587 Health Care Facilities – Use of Medical Cannabis

Position: Favorable

Madam Chair and esteemed members of the Committee. My name is Warren Lemley, I'm President of Peake ReLeaf, an independently Maryland owned and operated medical cannabis dispensary in Rockville and I strongly support Senate Bill 587.

Maryland is well known for its illustrious and state of the art Healthcare facilities. We are home to NIH, Johns Hopkins University, Maryland University and Walter Reed National Military Medical Center to name a few. When patients are receiving care at any of the facilities listed above or the many other healthcare, hospice, hospitals, Universities and wellness centers they should be improving their quality of life not forced to remove a medication from their Doctor's wellness plan just so they can receive the specialized care they need.

This is why SB 587 is so important. It is pivotal to allowing patients to continue their regimen which has improved their quality of life and allowed them to pursue a more normal life for a wide

variety of conditions and illnesses. Not allowing patients to receive the care they have become accustomed to is unthinkable and this is why we must pass this legislation.

Many medical cannabis patients move on from the pharmaceutical medications that they previously took in the hopes of receiving better results utilizing medical cannabis. We shouldn't force patients to utilize other forms of medication because they need to receive care from one of Maryland's healthcare facilities. This can disrupt a patient's care and new forms of medications can result in unexpected results and side effects that could have been avoided by allowing them to continue to utilize the medical cannabis that they have become accustomed to.

Most importantly, medical cannabis has been found uniquely capable of assisting in the care of those with PTSD, nerve pain and numerous forms of cancer who find comfort in its ability to relieve pain, discomfort and increase appetite which can be a life saving measure for those receiving chemotherapy and radiation. We should not take this away from patients who have already been effectively utilizing medical cannabis to improve their quality of life.

There are also patients in need of hospice. The goal of hospice is to create as much comfort as possible. If a patient has been receiving comfort from medical cannabis, then they should be allowed to continue utilizing the medication that provides them comfort. For this and the many reasons I listed above, I respectfully encourage a favorable report on SB 587.

Respectfully submitted,

Warren Lemley

President, Peake ReLeaf

SB 587 - Use of Cannabis in Health Care Facilities

Uploaded by: Brian Frazee

Position: UNF

Maryland
Hospital Association

Senate Bill 587- Health Care Facilities – Use of Medical Cannabis

Position: *Oppose*
March 9, 2023
Senate Finance Committee

MHA Position

On behalf of the Maryland Hospital Association's (MHA) 60 member hospitals and health systems, we appreciate the opportunity to comment in opposition to Senate Bill 587. Maryland hospitals sympathize with patients who rely on medical cannabis to ease symptoms caused by medical conditions, but there are legal and medical concerns with permitting cannabis in hospital facilities.

A primary concern is the federal rules regarding cannabis use, particularly as it relates to hospital's participation in the Medicare program. Allowing the use of cannabis in hospitals risks violating Medicare Conditions of Participation (CoP), which require facilities to comply with all federal law. Violating the CoP can lead to loss of Medicare funding, which would devastate a hospital's financial viability. Cannabis is a Schedule I drug under the Controlled Substances Act (CSA), which means that "it has a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use under medical supervision."[1] The U.S. Food and Drug Administration, which has regulatory authority over the approval of drugs, has not approved any marijuana product for any clinical indication.[2] As a Schedule I substance, possession of cannabis alone is an offense under the CSA.[3]

Research into the effects of cannabis on clinical conditions—including its interaction with treatment regimens—are limited. Using cannabis in combination with other medication without established empirical data may create unanticipated side effects or worsen disease progression. This places providers in a double bind: Providers must choose between prioritizing a patient's health and denying cannabis at the risk of violating this law or permitting the consumption of cannabis and face potential medical malpractice claims when a patient suffers adverse health outcomes.

Finally, while the hospital industry appreciates the intent behind the two proposed carveouts, in practice the exemptions offer little protection. Proposed Section 20-2303(C)(1)(I) would allow for a suspension from compliance when an enforcement action has been initiated against the facility, but this provides cold comfort as the facility would have already committed the offenses charged by the federal agencies and must suffer the consequences. Similarly, proposed Section

[1] www.dea.gov/sites/default/files/2020-06/Marijuana-Cannabis-2020_0.pdf
[2] www.dea.gov/sites/default/files/2020-06/Marijuana-Cannabis-2020_0.pdf
[3] crsreports.congress.gov/product/pdf/IN/IN11204

20-2303(C)(1)(II) requires facilities to wait for a federal regulatory agency to adopt a regulation that expressly prohibits the use of medical cannabis, but since cannabis is already a Schedule I substance, no further regulatory action is necessary to make it illegal.

For these reasons, we request an ***unfavorable*** report on SB 587.

For more information, please contact:
Brian Frazee, Vice President, Government Affairs
Bfrazee@mhaonline.org

SB0587_LOI_LifeSpan, HPCNM_HC Facilities - Use of

Uploaded by: Danna Kauffman

Position: INFO

TO: The Honorable Melony Griffith, Chair
Members, Senate Finance Committee
The Honorable Antonio Hayes

FROM: Danna L. Kauffman
Pamela Metz Kasemeyer
Christine K. Krone
410-244-7000

DATE: March 9, 2023

RE: **LETTER OF INFORMATION** – Senate Bill 587 – *Health Care Facilities – Use of Medical Cannabis*

On behalf of the LifeSpan Network and the Hospice and Palliative Care Network of Maryland, we submit this **letter of information** for Senate Bill 587.

Senate Bill 587 requires a nursing home or a hospice to permit an individual to use medical cannabis within the facility. The bill does allow the facility to place certain restrictions on the use of cannabis, such as prohibiting smoking of the substance. The bill also seeks to address the conflict that exists between the State law permitting the use of medical cannabis and the federal law categorizing medical cannabis as a Schedule I controlled dangerous substance.

This letter of information focuses on guidance that has been given by the State (i.e., Office of Health Care Quality) to the nursing home industry. However, the content in the guidance would extend to any facility that participates in Medicaid/Medicare, including hospice. Simply stated, the guidance reiterates the federal government's position that, despite states legalizing cannabis, cannabis remains a Schedule 1 controlled dangerous substance and is illegal. Consequently, providers that participate in Medicare and/or Medicaid must sign a Condition of Participation agreement and comply with all applicable federal and state requirements. The guidance further warns that providers could be subject to federal enforcement, including termination of participation in their provider agreements.

Again, while the bill seeks to address this conflict, there is no guarantee that the federal government would cease an enforcement action. Until there is resolution between state/federal law or additional guidance given by the federal government to address this situation, providers and patients remain in the crosshairs, creating an unfortunate situation.

MARYLAND
Department of Health

Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall, Secretary

Office of Health Care Quality
Spring Grove Center, Bland Bryant Building, 55 Wade Avenue, Catonsville, MD 21228-4663

To: All Nursing Homes

Patricia Tomsko Nay, MD

From: Patricia Tomsko Nay, MD, CMD
Executive Director, Office of Health Care Quality

Subject: Medical Cannabis

Date: April 13, 2018

Cannabis (marijuana) is categorized as a Schedule I controlled substance under the U.S. Controlled Substances Act, which means that:

- the drug or substance has a high potential for abuse;
- there is currently no accepted medical treatment use for the substance; and
- there are no accepted safety standards in place for the substance in medical treatment.

Providers certified by the Centers for Medicare and Medicaid Services (CMS) are subject to a Condition of Participation agreement that requires providers to operate and provide services in accordance with all applicable Federal and State laws. Because cannabis is classified as a Schedule I controlled substance, the distribution or possession of cannabis is a criminal offense. Therefore, it is CMS's standpoint that federal law prohibits certified providers from dispensing medical cannabis.

Even though Maryland has legalized the medical use of cannabis, Maryland providers certified by CMS should be aware they may not be insulated from federal enforcement, including termination of their provider agreement. Until the conflict between state and federal law is resolved, Maryland providers should obtain legal advice from their own attorney to determine how they want to approach the use of medical cannabis in their nursing home.

If you have further questions regarding medical cannabis, please contact Margie Heald, Deputy Director of Federal Programs, 410-402-8101.

SB0516 Testimony.pdf
Uploaded by: Ian Swain
Position: INFO

First priority

The inevitable consequence of Bill SB 516 Cannabis Reform on Life, Liberty and the Pursuit of Health and Happiness. - Copia

Good day US Rep KWEISI MFUME and accompanying representatives and delegates.

After 27 years of my brothers and sisters in Baltimore being criminalized and persecuted for wanting pain and anxiety relief in a cold, harsh city, I, Ian Alexander Swain of Sound Mind, did not expect to be writing in protest about a progressive cannabis reform. I definitely didn't expect to be forced back into the status of an illegal medical cannabis user. As a individual dealing with a frustrating form of epilepsy that has at times left me without voluntary motor function, the ability to fully express my bladder, involuntary essential tremors, palsy, and left me lame in my legs for more than a year. Cannabis is a significant part of my wellness plan and the medical cannabis pay for wellness scheme was already a disgusting hurdle for patients in my honest opinion. As a resident of Baltimore and life long native, you, my representatives, have failed me. You have failed my fellow residents and you have failed yourselves, defeating the chance of ever being able to say, "I did right by my constituents, I helped Baltimore inch towards a more peaceful, healthy space."
"I can be proud of myself. "

Signed,
Ian Alexander Swain
21214 Resident

CBD, CBG, CBN, CBC, and a number of other crucial cannabinoids and NECESSARY for my health and wellness that would be made illegal for me to have simple, adult restricted access too.
Attached are lab reports for products that are crucial to my right to the pursuit of happiness and within that the right to pursue my best wellness plan.
I expect a tax in some way, I expect strict regulations, I didn't expect a health risk being reintroduced.

MCT-for-Posting-OFTKL2250-221... 706 kB

MCT-GUMBB5-Various-Lots-Exp-... 814 kB

7 - X - SB 587 - FIN - MMCC - LOI.docx.pdf
Uploaded by: State of Maryland (MD)
Position: INFO

MMCC
MARYLAND MEDICAL CANNABIS COMMISSION

March 9, 2023

The Honorable Melony Griffith
Chair, Senate Finance Committee
3 East, Miller Senate Office Building
Annapolis, Maryland 21401

RE: Senate Bill 587 – Health Care Facilities – Use of Medical Cannabis – Letter of Information

Dear Chair Griffith:

The Maryland Medical Cannabis Commission (the Commission) is submitting this letter of support for Senate Bill 587 – Health Care Facilities – Use of Medical Cannabis.

SB 587 would require certain hospitals and hospice facilities to allow a qualifying patient with a written certification to consume medical cannabis within the facility if the patient is receiving certain non-emergency medical care. The Commission believes that SB 587 is consistent with the General Assembly's approach to regulate medical cannabis in a similar manner to other medicines and would expand patient access to medical cannabis, regardless of treatment setting.

The Commission's authorizing statutes and regulations allow qualifying patients to consume cannabis at medical facilities, if permitted by the medical facility, and provide medical facilities with legal protections if they allow patients to consume medical cannabis during treatment at the facility. (see COMAR 10.62.30.04, which allows for the delivery of medical cannabis, by a licensed dispensary, to a "medical facility where the qualifying patient is receiving in-patient treatment," and Health-General Article, §13-3313(a)(8), which grants certain legal protections to "a hospital, medical facility, or hospice program a qualifying patient is receiving treatment."

In January 2022, California implemented similar legislation, allowing for the use of medical cannabis products by terminally ill patients (Chapter 384, Statutes of 2021). Prior to adoption, the California State Legislature received assurances from the U.S. Centers for Medicaid and Medicare (CMS) that permitting medical cannabis patients to use medical cannabis products at a healthcare facility would not jeopardize federal funding. The California legislature passed revisions to this act effective January 1, 2023 (Chapter 242, Statutes of 2022) clarifying the initial legislation, including:

- Exempting from the health care facilities required to participate in this program:
    - Chemical dependency recovery hospitals,
    - State hospitals; and
    - Emergency departments of a General Acute Care Hospital.

- Making explicit that the patient or primary caregiver is responsible for acquiring, retrieving, administering, and removing the medicinal cannabis and that health care professionals and facility staff are prohibited from administering medicinal cannabis or retrieving it from storage;
- Removing a requirement for health care facilities permitting use of medicinal cannabis to comply with drug and medication requirements applicable to Schedule II, III, and IV drugs and instead updates the requirements for storage to specify that it must be stored securely at all times, in a locked container in the patient's room, other designated area or with the patient's primary caregiver; and
- Requiring health care facilities to adopt guidelines for disposal of medicinal cannabis. Upon discharge, patients or primary caregivers will be responsible for the removal of the medicinal cannabis. However, if they are unable to remove the medicinal cannabis, the product must be disposed of according to the health care facility's policies and procedures.

SB 587 also includes safe harbor provisions that would allow hospitals to restrict medical cannabis use in their facilities if certain federal agencies revise this position, or begin to take enforcement actions against healthcare facilities for allowing medical cannabis consumption on-site.

Lastly, the Commission would highlight that as introduced, SB 587 references to the Medical Cannabis Program in Title 13, Subtitle 33 of the Health - General Article. SB 516, which is emergency legislation, contemplates large-scale cannabis reform, including repealing Title 13, Subtitle 33 and recodifying many of its provisions in a new Alcoholic Beverages and Cannabis Article. The Commission believes that if both bills ultimately pass the General Assembly, a corrective bill would be necessary to move this provision into the new Alcoholic Beverages and Cannabis Article.

I hope you and the committee find this information useful. If you would like to discuss this further please contact Andrew Garrison, MPA, Deputy Director, Office of Policy and Government Affairs at andrew.garrison@maryland.gov or (443) 844-6114.

Sincerely,

Will Tilburg, JD, MPH
Executive Director
Maryland Medical Cannabis Commission

This position does not necessarily reflect the position of the Maryland Department of Health or the Office of the Governor.