Exhibit #19

Table 4-4. Labeling Requirements

State	Labeling Requirements
Arizona[63]	• Dispensary's registration identification number; • Amount, strain, and batch number of marijuana; • Safety and health warnings; • Source of marijuana; • Date of harvest or sale; • List of all chemical additives, including nonorganic pesticides, herbicides, and fertilizer; and • Registry identification number of the qualifying patient. In addition, edible products must also indicate the total weight of the product.
Colorado[64]	• List of all ingredients; • List of all chemical additives, including nonorganic pesticides, herbicides, and fertilizer; • Batch number of the marijuana; • List of solvents and chemicals used in the creation of any medical marijuana concentrate; • License number of the optional premises cultivation facility; • License number of the medical marijuana center; • Date of sale; and • Registry identification number of the qualifying patient. In addition, edible products must also indicate product identity and net weight.
Connecticut[65]	• Serial number, as assigned by the dispensary facility; • Date of dispensing the marijuana; • Quantity of marijuana dispensed; • Name and registration certificate number of the qualifying patient; • Name of the certifying physician; • Directions for use; • Name of the dispensary; • Name and address of the dispensary facility; • Any required cautionary statements; and • Expiration date.
Delaware[66]	• The name of the strain, batch, and quantity of marijuana; • A statement that the product is for medical use only, and not for resale; and • Details indicating (1) the medical marijuana is free of contaminants and (2) the levels of active ingredients in the product.

[63] *See* section R9-17-317, Arizona Administrative Code.
[64] *See* section M 1003 of 1 Colorado Code of Regulations 212-1.
[65] *See* section 21a-408-40(b), Regulations of Connecticut State Agencies.
[66] *See* section 7.3.10 of 16 Delaware Administrative Code 4470.

State	Labeling Requirements
Illinois[67]	The following information must be on labels of medical cannabis infused products: • Name and address of the cultivation center where the item was manufactured; • Common or usual name of the item; • All ingredients; • Allergen labeling; • Pre-mixed total weight of usable cannabis in the package; • A warning that the item is a medical cannabis infused product and not a food; • A warning that the product contains medical cannabis and is intended for consumption by qualifying patients only; and • Date of manufacture and "use by date."
Maine[68]	Must comply with applicable state labeling law.
Maryland	--
Massachusetts[69]	• Qualifying patient's name; • Name, registration number, and contact information of the dispensary; • Quantity of usable marijuana; • Date of packaging; • Batch number, serial number, and bar code of the marijuana; • Cannabinoid profile of the marijuana, including THC level; • Statement that the product is free of contaminants, and date of testing; and • Health and safety warning.
Minnesota[70]	• Patient's name and date of birth; • Name and date of birth of the patient's registered designated caregiver; • Patient's registry identification number; • Chemical composition of the medical cannabis; and • Dosage.
Nevada[71]	• Name and the registration number of the cultivation facility that produced, processed, and sold the usable marijuana; • Lot number of the marijuana; • Quantity of marijuana and date dispensed; • Name and registry identification card number of the qualified patient, and the name of the designated caregiver, if any; • Name and address of the medical marijuana dispensary; • Cannabinoid profile and potency levels and terpinoid profile, as determined by the independent testing laboratory; • A warnings that the product has intoxicating effects and may be habit forming; • A statement that the product may be unlawful outside of Nevada; and • Date of harvest. In addition, edible products must also indicate batch number, net weight, expiration date, and list all ingredients and allergens.

[67] *See* 410 Illinois Compiled Statutes 130, section 80(a)(3), Laws of Illinois 2013.
[68] *See* section 6.14 of 10-144 Code of Maine Rules chapter 122.
[69] *See* 105 Code of Massachusetts Regulations 725.105(E)(2).
[70] *See* chapter 311, section 9(3)(c)(5), Laws of Minnesota 2014.
[71] *See* sections 77-79 of Adopted Regulation of the Division of Public and Behavioral Health of the Nevada Department of Health and Human Services No. R004-14.

State	Labeling Requirements
New Hampshire[72]	• Name of the alternative treatment center; • Patient's registry number; • Amount and form of marijuana; • Time and date of origin; and • Destination of the product.
New Jersey[73]	• Name and address of the alternative treatment center; • Quantity of marijuana; • Date of packaging; • Serial number, lot number and bar code of the marijuana; • Cannabinoid profile of the medicinal marijuana, including THC level; • Whether the marijuana is of a low, medium, or high strength strain; • A statement that the product is for medical use by a qualifying patient and not for resale; • A list of any other ingredients besides marijuana contained within the package; • Date of dispensing; and • Qualifying patient's name and registry identification card number.
New Mexico[74]	• Name of the strain, batch, and quantity of marijuana; and • A statement that the product is for medical use and not for resale.
New York[75]	• The name, address, and registry identification number of the registered organization; • The name and registry identification number of the qualifying patient; • The date of sale; • Recommended form of medical marijuana and dosage for the certified patient; • The form and quantity of medical marijuana sold; • The packaging date; • Use by date; • Health warnings; • Number of individual doses contained in the package; and • A warning that the medical marijuana must be kept in the original container in which it was dispensed.
Oregon[76]	• The amount of THC and cannabidiol in the usable marijuana; • If pre-packaged, the weight or volume of the packaged usable marijuana; • The amount of usable marijuana in a finished product; • Potency information; and • Who performed the testing.
Rhode Island[77]	• Name of the strain, batch, and quantity of marijuana; and • A statement that the product is for medical use and not for resale.

[72] *See* section 126-X:8(XIV)(b), New Hampshire Revised Statutes.
[73] *See* sections 8:64-10.6(c), New Jersey Administrative Code.
[74] *See* section 7.34.4.10(B)(4), New Mexico Administrative Code.
[75] *See* New York State Public Health Law, section 3364(12).
[76] *See* section 333-008-1220, Oregon Administrative Rules.
[77] *See* section 5.1.8(j) of the Rules and Regulations Related to the Medical Marijuana Program [R21-28.6-MMP], Rhode Island Department of Health.

State	Labeling Requirements
Vermont[78]	• The strain of marijuana; and • A statement that Vermont does not attest to the medicinal value of cannabis.

Quality Control

With regard to the regulation of cultivation centers and dispensaries, it appears that at least eleven of the seventeen states (Colorado, Connecticut, Delaware, Illinois, Maine, Minnesota, Nevada, New Hampshire, New Mexico, New York, and Oregon) have statutory provisions that address quality control to some extent. Of these, nine states (Colorado, Delaware, Illinois, Maine, Minnesota, Nevada, New Mexico, New York, and Oregon) have provisions that involve marijuana testing.

With regard to the states that have provisions that involve marijuana testing, Colorado allows a medical marijuana center to provide a sample of its products to a licensed laboratory for testing and research purposes. This testing serves to ensure that products are safe for patient consumption and free of contaminants. The Colorado Department of Revenue has adopted rules relating to acceptable testing and research practices, including testing, standards, quality control analysis, equipment certification and calibration, and chemical identification and other substances used in bona fide research methods.[79]

Delaware requires safety compliance facilities to register with the Delaware Department of Health and Social Services in order to obtain authority to test medical marijuana produced for medical use for potency and contaminants.[80]

Under current law, cultivation centers in Illinois are required to comply with state and federal rules and regulations relating to the use of pesticides.[81] Further, pursuant to requirements under state law, the Illinois Department of Agriculture is currently drafting administrative rules, applicable to cultivation centers, relating to standards for the testing, quality, and cultivation of medical cannabis.[82]

The Maine Department of Health and Human Services is authorized to perform laboratory testing on marijuana obtained from patients, caregivers, and dispensaries, in order to ensure compliance with the state medical marijuana law.[83] Such testing is used to detect pests, mildew, heavy metals, and pesticides.[84]

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[78] *See* 28-000-003 Code of Vermont Rules section 6.31.
[79] *See* Section 12-43.3-402(6), Colorado Revised Statutes, and 1 Colorado Code of Regulations 212-1.
[80] Delaware Code, title 16, sections 4902A(13) and 4915A(a).
[81] 410 Illinois Compiled Statutes 130, section 105(k), Laws of Illinois 2013.
[82] 410 Illinois Compiled Statutes 130, section 165(c)(7), Laws of Illinois 2013.
[83] Maine Revised Statutes, title 22, section 2430-A.
[84] *See* Section 6.7.3 of 10-144 Code of Maine Rules 122.

Minnesota requires medical marijuana manufacturers to contract with a laboratory approved by the Minnesota Commissioner of Health for the purposes of testing medical marijuana as to content, contamination, and consistency.[85]

Nevada requires the Division of Public and Behavioral Health of the Department of Health and Human Services to certify laboratories to test marijuana and other marijuana products that are sold in the state. [86] The purpose of the testing is to accurately determine the concentration of THC and cannabidiol in the marijuana, whether the tested material is organic or non-organic, the presence and identification of molds and fungus, and the presence and concentration of fertilizers and other nutrients.[87] Furthermore, the statutes evidently encourage medical marijuana dispensaries and similar entities to sell edible marijuana products and marijuana-infused products on the basis of the concentration of THC in the products, rather than by the weight of the products.[88]

New Mexico requires licensed producers to submit marijuana samples for testing to the New Mexico Department of Health upon request.[89] The department may make such a request upon receiving a complaint regarding the presence of mold, bacteria, or another contaminant in the marijuana produced by the licensed producer, or if the department has reason to believe that the presence of mold, bacteria, or another contaminant may jeopardize the health of a patient.[90] Costs of testing required by the department are borne by the licensed producer.[91]

New York requires registered organizations to contract with an independent laboratory approved by the New York Commissioner of Health to test the medical marijuana produced by the registered organization.[92] The commissioner is authorized to "issue regulation requiring the laboratory to perform certain tests and services."[93] However, as of this writing, the commissioner has not yet adopted rules to clarify the requirements of such testing.

Oregon requires medical marijuana facilities to comply with rules adopted by the Oregon Health Authority regarding the testing of usable marijuana and immature plants received by the facility for the presence of pesticides, mold, and mildew.[94] Such testing is necessary before usable marijuana or immature plants may be transferred to a qualifying patient or caregiver.[95]

In addition to these nine states, New Hampshire has provisions regarding the use of organic pesticides on marijuana, while Connecticut has provisions regarding the ability of cultivation centers to cultivate pharmaceutical grade marijuana. New Hampshire requires

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[85] Chapter 311, sections 5 and 9, Laws of Minnesota 2014.
[86] Section 453A.368(1), Nevada Revised Statutes.
[87] Section 453A.368(2), Nevada Revised Statutes.
[88] Section 453A.360, Nevada Revised Statutes.
[89] Section 7.34.4.8(R), New Mexico Administrative Code.
[90] *See id.*
[91] *See id.*
[92] New York State Public Health Law, section 3364(3).
[93] *Id.*
[94] Section 475.314(3)(e)(B), Oregon Revised Statutes.
[95] *See* Section 333-008-1190, Oregon Administrative Rules.

alternative treatment centers to use only organic pesticides in cannabis.[96] Alternative treatment centers are also required to collect data on marijuana strains used and methods of delivery for qualifying conditions and symptoms, any side effects experienced, and therapeutic effectiveness for each patient who is willing to provide the information.[97] Connecticut requires producers to demonstrate their ability to cultivate pharmaceutical grade marijuana for palliative use in a secure indoor facility.[98] State law also provides that only a licensed pharmacist may apply for and receive a dispensary license.[99]

Quantity Control vs. Quality Control

It should be noted that, with regard to the regulation of cultivation centers and dispensaries, the seventeen states appear to place a greater emphasis on *quantity* control (i.e., controlling the supply of medical marijuana), as opposed to *quality* control.

Number of Cultivation Centers and Dispensaries

In particular, states generally control the supply of medical marijuana by establishing either minimum or maximum limits on the number of cultivation centers or dispensaries that may be operated in the state. Notable exceptions are Colorado, New Mexico, and Oregon, which do not specify a numerical limit on the cultivation centers or dispensaries that may operate within the state. Ten of the seventeen states (Arizona, Connecticut, Illinois, Maryland, Massachusetts, Nevada, New Hampshire, New York, Rhode Island, and Vermont) set maximum limits, while the remaining four states (Connecticut, Delaware, Maine, and New Jersey) set minimum limits. The limits are specified as a total number of cultivation centers and dispensaries or, alternatively, as a proportionate number of cultivation centers or dispensaries in relation to either a county or a specified number of pharmacies.

The table below outlines the statutory limits on the number of cultivation centers or dispensaries among the seventeen states:

[96] Section 126-X:8(X), New Hampshire Revised Statutes.
[97] Section 126-X:8(XVI)(b), New Hampshire Revised Statutes.
[98] Section 21a-408-20(c)(5), Regulations of Connecticut State Agencies.
[99] Section 21a-408h(b)(B), Connecticut General Statutes. *See also* definition of "dispensary" at note 10, *supra*.

Table 4-5. Limits on the Number of Cultivation Centers or Dispensaries

State	Limits on the Number of Establishments:	
	Cultivation Centers	Dispensaries
Arizona	Not more than 1 dispensary for every 10 pharmacies[100]	
Colorado	--	
Connecticut	Not less than 3 nor more than 10 producers in the state[101]	Maximum number of dispensaries in the state to be administratively determined[102]
Delaware	1 compassion center per county by 1/1/2013; at least 3 more overall by 1/1/2014[103]	
Illinois	Up to 22 cultivation centers[104]	Up to 60 dispensing organizations[105]
Maine	Not less than 8 dispensaries[106]	
Maryland	Currently, up to 15 growers.[107] Beginning 6/1/2016, the Commission may issue the number of licenses necessary to meet demand.[108]	--
Massachusetts	Up to 35 medical marijuana treatment centers; with at least 1, but not more than 5, in each county[109]	
Minnesota	Two medical cannabis manufacturers, each of which shall operate four distribution facilities[110]	

[100] Arizona Revised Statutes section 36-2804(C).
[101] Connecticut General Statutes section 21a-408i(b)(A).
[102] Connecticut General Statutes section 21a-408h(b)(A).
[103] Delaware Code title 16, section 4914A(d).
[104] 410 Illinois Compiled Statutes 130/85(a) (2013).
[105] 410 Illinois Compiled Statutes 130/115(a) (2013).
[106] Maine Revised Statutes title 22, section 2428(11).
[107] Section 13-3309(a)(2)(I) of the Health-General Article, Code of Maryland (as amended by chapters 240 and 256, 2014 Laws of Maryland).
[108] Section 13-3309(a)(2)(II) of the Health-General Article, Code of Maryland (as amended by chapters 240 and 256, 2014 Laws of Maryland).
[109] Chapter 369, section 9(C), Massachusetts Acts 2012.
[110] Chapter 311, sections 5(1) and 9(1), Laws of Minnesota 2014.

State	Limits on the Number of Establishments:	
	Cultivation Centers	**Dispensaries**
Nevada	Appropriate number of cultivation facilities, administratively determined, necessary to serve and supply the dispensaries[111]	Not more than 1 dispensary for every 10 pharmacies in a county; provided there is at least 1 dispensary per county[112]
New Hampshire	No more than 4 alternative treatment centers at one time[113]	
New Jersey	At least 2 alternative treatment centers each in the northern, central, and southern regions of the state[114]	
New Mexico	--	
New York	No more than 5 registered organizations, each of which may operate no more than 4 dispensing facilities[115]	
Oregon	--	
Rhode Island	No more than 3 compassion centers at one time[116]	
Vermont	No more than 4 dispensaries at one time[117]	

Inventory Limits

Eight of the seventeen states (Colorado, Maine, New Hampshire, New Jersey, New Mexico, Oregon, Rhode Island, and Vermont) have statutes that also control quantity by limiting, or authorizing the limitation of, a cultivation center's or dispensary's inventory. These statutes generally place per-patient limits on the number of plants, usable marijuana, or other form of marijuana that the cultivation center or dispensary may possess. For example, Colorado and Maine impose limits of six plants per patient, while Colorado and Vermont impose limits of two ounces of marijuana per patient. The statutes in the remaining nine states are silent on the matter of inventory limits.

The table below outlines the statutory inventory limits for cultivation centers and dispensaries among the seventeen states:

[111] Chapter 547, section 11(3), Statutes of Nevada 2013.
[112] Chapter 547, section 11(2), Statutes of Nevada 2013.
[113] New Hampshire Revised Statutes section 126-X:7(III).
[114] New Jersey Revised Statutes section 24:6I-7(a).
[115] New York State Public Health Law, section 3365(9).
[116] Rhode Island General Laws section 21-28.6-12(b)((8).
[117] Vermont Statutes title 18, section 4474f(b).

Table 4-6. Limits on the Inventory of a Cultivation Center or Dispensary

State	Limits
Arizona	--
Colorado	Not more than 6 medical marijuana plants and 2 ounces of medical marijuana per patient[118]
Connecticut	--
Delaware	--
Illinois	--
Maine	Not more than 6 mature marijuana plants per patient[119]
Maryland	--
Massachusetts	--
Minnesota	--
Nevada	--
New Hampshire	Not more than 80 cannabis plants, 160 seedlings, and 80 ounces of usable cannabis (or 6 ounces of usable cannabis per patient); and Not more than 3 mature cannabis plants, 12 seedlings, and 6 ounces of usable cannabis per patient[120]
New Jersey	A reasonable inventory of marijuana seeds or seedlings to be determined administratively[121]
New Mexico	Not more than a total of 150 mature plants and seedlings, and an inventory of usable marijuana and seeds that reflects current patient needs[122]
New York	--
Oregon	Marijuana grow sites may possess no more than a total of 24 ounces of usable marijuana, 6 mature plants, and 18 seedlings per patient. Grow sites may produce marijuana for no more than 4 patients concurrently.[123]
Rhode Island	Not more than 150 marijuana plants, of which not more than 99 are mature, and 1,500 ounces of usable marijuana[124]

[118] Colorado Revised Statutes section 12-43.3-901(4)(e).
[119] Maine Revised Statutes title 22, section 2428(1-A)(B) and (9)(A).
[120] New Hampshire Revised Statutes section 126-X:8(XV)(a).
[121] New Jersey Revised Statutes section 24:6I-7(a).
[122] Section 7.34.4.8(A)(2), New Mexico Administrative Code.
[123] Section 333-008-0080(3) and (4), Oregon Administrative Rules.
[124] Rhode Island General Laws section 21-28.6-12(i)(1).

State	Limits
Vermont	Not more 28 mature plants, 98 immature plants, and 28 ounces of usable marijuana. In the alternative, for a dispensary with more than 14 patients, not more than 2 mature plants, 7 immature plants, and 2 ounces of usable marijuana per patient[125]

Dispensing Limits

The statutes in the majority of the seventeen states also set quantity controls by limiting the amounts of medical marijuana that dispensaries may dispense to patients.[126] These statutes generally prohibit a dispensary from dispensing marijuana to a patient at a rate that exceeds a specified dispensing rate. The maximum dispensing rate per patient tends to range from two to five ounces of marijuana within a ten- to thirty-day period. The statutory limits are generally made applicable to the dispensaries, with the exception of Arizona, which applies the limit to the patient. The dispensing rates are also evidently established to be consistent with the patient possession limits, which are constitutionally or statutorily established. In other words, the dispensing rates are set to prevent exceeding a patient's possession limits.

The statutes in a number of states (Colorado,[127] Delaware,[128] Illinois,[129] Maine,[130] Nevada,[131] New Hampshire,[132] Rhode Island,[133] and Vermont[134]) also provide that a patient may

[125] Vermont Statutes title 18, section 4474e(a)(3).
[126] The exceptions are Connecticut, Maryland, Massachusetts, New Mexico, New Jersey, and Oregon, in which the statutes relating to dispensaries appear to be silent on the matter.
[127] Section 25-1.5-106(8)(f), Colorado Revised Statutes, specifies that "[i]f the patient elects to use a licensed medical marijuana center, the patient shall register the primary center he or she intends to use."
[128] Delaware Code title 16, section 4919A(h) specifies that "[b]efore marijuana may be dispensed to a … registered qualifying patient, a compassion center agent must determine that … the registered compassion center is the designated compassion center for the registered qualifying patient who is obtaining the marijuana[.]"
[129] 410 Illinois Compiled Statutes 130/130(i)(3) (2013) specifies that before medical cannabis may be dispensed to a registered qualifying patient, the dispensing organization agent must determine whether the dispensing organization is the designated dispensing organization for the registered qualifying patient who is obtaining the cannabis.
[130] Maine Revised Statutes title 22, section 2423-A(1)(F), specifies that a qualifying patient may "[d]esignate one . . . registered dispensary to cultivate marijuana for the medical use of the patient[.]"
[131] Section 453A.366, Nevada Revised Statutes, specifies that a "patient who holds a valid registry identification card . . . may select one medical marijuana dispensary to serve as his or her designated medical marijuana dispensary at any one time."
[132] Section 126-X:8(XV)(b), New Hampshire Revised Statutes, specifies that an "alternative treatment center . . . shall not dispense, deliver, or otherwise transfer cannabis to any person or entity other than . . . [a] qualifying patient who has designated the relevant alternative treatment center[.]"
[133] Section 21-28.6-12(i)(2), Rhode Island General Laws, specifies that a "compassion center may not dispense, deliver, or otherwise transfer marijuana to a person other than a qualifying patient who has designated the compassion center as a primary caregiver or to such patient's other primary caregiver."
[134] Vermont Statutes title 18, section 4474e(a)(1), specifies that a "dispensary … may … dispense marijuana … for or to a registered patient who has designated it as his or her dispensary …" while section 4474h(a) specifies that "[a] registered patient may obtain marijuana only from the patient's designated dispensary and may designate only one dispensary."

only obtain marijuana from a particular dispensary if that dispensary has been designated by the patient.

The table below outlines the statutorily-established medical marijuana dispensing rates among the seventeen states, in comparison with the state's patient possession limits. States listed in bold print have statutes that limit a qualifying patient to obtaining medical marijuana only from a dispensary that has been designated by the patient:

Table 4-7. Patient Dispensing Limits

State	Dispensing Rate per Patient	Patient Possession Limits
Arizona	Not more than 2.5 ounces of marijuana in any 14-day period[135]	Not more than 2.5 ounces of usable marijuana, and not more than 12 plants[136]
Colorado	Not more than 2 ounces of usable marijuana[137]	Not more than 2 ounces of usable marijuana and 6 marijuana plants (of which, not more than 3 may be mature plants) [138]
Connecticut	Not more than a one-month supply during a one-month period[139]	Not more than a one-month supply, amount to be determined administratively[140]
Delaware	Not more than 3 ounces of marijuana in any 14-day period[141]	Not more than 6 ounces of usable marijuana[142]
Illinois	Not more than 2.5 ounces of cannabis in any 14-day period[143]	Not more than 2.5 ounces of usable cannabis during a 14-day period[144]
Maine	Not more than 2.5 ounces of prepared marijuana during a 15-day period[145]	Not more than 2.5 ounces of usable marijuana, and not more than 6 mature plants[146]
Maryland	--	30-day supply, to be administratively defined[147]
Massachusetts	Not more than 10 ounces in a 60-day period[148]	60-day supply (10 ounces)[149]

[135] Arizona Revised Statutes section 36-2816(A).
[136] Arizona Revised Statutes section 36-2801(1)(a).
[137] Colorado Revised Statutes section 12-43.3-402(3).
[138] Colorado Constitution Art. XVIII, Section 14(4)(a).
[139] Section 21a-408-38(e), Regulations of Connecticut State Agencies.
[140] Connecticut General Statutes section 21a-408a(a)(2).
[141] Delaware Code title 16, section 4919A(i).
[142] Delaware Code title 16, section 4903A(a).
[143] 410 Illinois Compiled Statutes 130/130(h) (2013).
[144] 410 Illinois Compiled Statutes 130/10(a)(1) and 25(a) (2013).
[145] Maine Revised Statutes title 22, section 2428(7).
[146] Maine Revised Statutes title 22, section 2423-A(1).
[147] Section 13-3313(a)(1) of the Health-General Article, Code of Maryland (as amended by chapters 240 and 256, 2014 Laws of Maryland).

State	Dispensing Rate per Patient	Patient Possession Limits
Minnesota	Not more than a 30-day supply of non-smokable marijuana[150]	30-day supply of non-smokable marijuana[151]
Nevada	Not more than 2.5 ounces of usable marijuana, 12 marijuana plants, and a maximum allowable quantity of edible marijuana products and marijuana-infused products, as established administratively, in any 14-day period[152]	Not more than 2.5 ounces of usable marijuana in a 14-day period, 12 marijuana plants, and a maximum allowable quantity of edible marijuana products and marijuana-infused products, as administratively established[153]
New Hampshire	Not more than 2 ounces of usable cannabis during a 10-day period[154]	Not more than 2 ounces of usable cannabis[155] and any amount of unusable cannabis[156]
New Jersey	Not more than 2 ounces in a 30-day period[157]	Not more than 2 ounces in a 30-day period[158]
New Mexico	--	Not more than 6 ounces of usable marijuana, 4 mature plants, and 12 seedlings[159]
New York	Not more than a 30-day supply of non-smokable marijuana[160]	30-day supply of non-smokable marijuana[161]
Oregon	Not more than patient is permitted to possess[162]	Not more than 24 ounces of usable marijuana, 6 mature plants, and 18 seedlings[163]
Rhode Island	Not more than 2.5 ounces of usable marijuana during a 15-day period[164]	Not more than 2.5 ounces of usable marijuana, 12 mature plants, and 12 seedlings[165]
Vermont	Not more than 2 ounces of usable marijuana during a 30-day period[166]	Not more than 2 ounces of usable marijuana, 2 mature plants, and 7 immature plants[167]

[148] 105 Code of Massachusetts Regulations 725.105(F)(2).
[149] 105 Code of Massachusetts Regulations 725.004.
[150] Chapter 311, section 9(3)(c)(6), Laws of Minnesota 2014.
[151] *Id.*
[152] Chapter 547, section 19.3(2), Statutes of Nevada 2013; Nevada Revised Statutes section 453A.200.
[153] Nevada Revised Statutes section 453A.200(3)(b).
[154] New Hampshire Revised Statutes section 126-X:8(XIII)(a) and (b).
[155] New Hampshire Revised Statutes section 126-X:2(I).
[156] Section 126-X:1(XIV), New Hampshire Revised Statutes, defines "unusable cannabis" as "any cannabis, other than usable cannabis, including the seeds, stalks, and roots of the plant."
[157] New Jersey Revised Statutes sections 24:6I-10(a).
[158] *Id.*
[159] Section 7.34.4.7(D), New Mexico Administrative Code.
[160] New York State Public Health Law, section 3364(5)(B).
[161] New York State Public Health Law, section 3362(1)(A).
[162] Section 333-008-1240(3), Oregon Administrative Rules.
[163] Section 475.320, Oregon Revised Statutes.
[164] Rhode Island General Laws section 21-28.6-12(g)(1).
[165] Rhode Island General Laws section 21-28.6-4(a).

Controls on the Channels of Supply and Distribution/Security Requirements

The regulatory statutes of the seventeen states also establish controls on the channels of supply and distribution of medical marijuana. Generally, these statutes establish a closed circuit in which medical marijuana circulates only among cultivation centers, dispensaries, patients, and their caregivers. A simplified outline of the channels of supply and distribution established by these statutes may be described as follows:

- A cultivation center or dispensary cultivates marijuana in an enclosed, locked facility with restricted access.
- A cultivation center or dispensary may also obtain marijuana from the following sources:
  - Another cultivation center or dispensary;
  - A patient;
  - The patient's caregiver.
- A dispensary may distribute medical marijuana to the following entities:
  - Another dispensary;
  - A patient;
  - The patient's caregiver.

Most of the seventeen states have statutes that place restrictions on the cultivation site. Twelve states (Arizona,[168] Connecticut,[169] Delaware,[170] Illinois,[171] Maine,[172] Massachusetts,[173] Minnesota,[174] Nevada,[175] New Hampshire,[176] New York,[177] Rhode Island,[178] and Vermont[179]) specify that the cultivation center may cultivate marijuana only in an enclosed, locked facility, with seven of these states also requiring that access to the facility be restricted. Connecticut,

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[166] Vermont Statutes title 18, section 4474e(k)(1)(C).
[167] Vermont Statutes title 18, sections 4472(10) and 4474b(a).
[168] Section 36-2806(E), Arizona Revised Statutes.
[169] Section 21a-408i(b)(H), Connecticut General Statutes.
[170] Delaware Code, title 16, section 4919A(f).
[171] 410 Illinois Compiled Statutes 130/105(d) (2013).
[172] Maine Revised Statutes, title 22, section 2428(6)(I).
[173] Chapter 369, section 9(B)(1)(c), Massachusetts Acts 2012.
[174] Chapter 311, section 9(2)(b), Laws of Minnesota 2014.
[175] Section 453A.352(4), Nevada Revised Statutes.
[176] Section 126-X:8(XV)(c), New Hampshire Revised Statutes.
[177] New York State Public Health Law, section 3364(8).
[178] Section 21-28.6-12(c)(1)(iv), Rhode Island General Laws.
[179] Vermont Statutes, title 18, section 4474e(d)(1).

Massachusetts, Minnesota, New York, and Rhode Island are silent on the matter of restricted access. Connecticut also has statutes that prohibit out-of-state locations for cultivation.[180]

A number of states also limit the external sources from which cultivation centers or dispensaries may obtain medical marijuana that they themselves do not cultivate. For example, among the states in which dispensaries are not regulated separately from cultivation centers, the statutes of several states limit the dispensary's external sources to other dispensaries (Arizona,[181] Delaware,[182] and New Mexico[183]), patients or their caregivers (Arizona,[184] Maine[185]), or the dispensary's principal officers, board members, or employees (Vermont[186]).

Likewise, among the states in which dispensaries are regulated separately from cultivation centers, the statutes in a few of the states limit a dispensary's external sources to a cultivation center (Connecticut,[187] Illinois,[188] Nevada,[189] and Oregon[190]). The statutes in two of these states also permit a dispensary to obtain marijuana from patients or their caregivers (Nevada[191] and Oregon[192]). Finally, two of these states also prohibit dispensaries from obtaining marijuana from outside the state (Illinois[193]), or prohibit cultivation centers and dispensaries from obtaining marijuana from outside the state (Connecticut[194]), in violation of state or federal law.

The states also limit the entities to whom medical marijuana may be distributed. All seventeen states specify that a dispensary may distribute medical marijuana to two entities -- a patient or the patient's caregiver. Ten of the seventeen states (Connecticut,[195] Illinois,[196] Maine,[197] Maryland,[198] Massachusetts,[199] Minnesota,[200] New Jersey,[201] Oregon,[202] Rhode Island,[203] and Vermont[204]) limit distribution to only those two entities. Six of the seventeen

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[180] Section 21a-408i(b)(F), Connecticut General Statutes.
[181] Section 36-2816(C), Arizona Revised Statutes.
[182] Delaware Code, title 16, section 4919A(g).
[183] Section 7.34.4.8(A)(2), New Mexico Administrative Code.
[184] Section 36-2816(C), Arizona Revised Statutes.
[185] Maine Revised Statutes, title 22, sections 2423-A(2)(H) and 2428(9)(E).
[186] Vermont Statutes, title 18, section 4474e(k)(1)(B).
[187] Sections 21a-408j(a)(1) and 21a-408k(a)(1), Connecticut General Statutes.
[188] 410 Illinois Compiled Statutes 130/130(e) (2013).
[189] Sections 453A.056 and 453A.340(2), Nevada Revised Statutes.
[190] Section 475.314(1), Oregon Revised Statutes.
[191] Section 453A.352(5), Nevada Revised Statutes.
[192] Section 475.314(1), Oregon Revised Statutes.
[193] 410 Illinois Compiled Statutes 130/130(e) (2013), for dispensing organizations.
[194] Connecticut General Statutes section 21a-408k(a)(2), for producers; and sections 21a-408h(b)(C) and 21a-408j(a)(3), for dispensaries.
[195] Section 21a-408j(a)(2), Connecticut General Statutes.
[196] 410 Illinois Compiled Statutes 130/25(i) and 130(f) (2013).
[197] Maine Revised Statutes, title 22, 2428(9)(B).
[198] Section 13-3310 of the Health-General Article, Code of Maryland (as amended by chapters 240 and 256, 2014 Laws of Maryland).
[199] Chapter 369, section 9(D), Massachusetts Acts 2012.
[200] Chapter 311, section 9(3)(c), Laws of Minnesota 2014.
[201] Section 24:6I-7(a), New Jersey Revised Statutes.
[202] Section 475.314(1), Oregon Revised Statutes.
[203] Section 21-28.6-12(i)(2), Rhode Island General Laws.

states (Arizona,[205] Colorado,[206] Nevada,[207] New Hampshire,[208] New Mexico,[209] and New York[210]) also permit a dispensary to distribute medical marijuana to another dispensary, while Delaware permits a dispensary to transfer medical marijuana to and from a safety compliance facility for analytical testing.[211] Two of the states (Connecticut[212] and New Mexico[213]) explicitly prohibit a cultivation center or dispensary from transporting marijuana outside the state, in violation of state or federal law. However, in contrast, Delaware permits a dispensary to distribute marijuana *seeds* to entities that are licensed or registered in another jurisdiction to dispense marijuana for medical purposes.[214]

As mentioned above, these regulatory statutes are intended to establish channels of supply and distribution that resemble a closed circuit. In order to prevent medical marijuana from being diverted from this closed circuit, all seventeen states require their cultivation centers and dispensaries to comply with various security requirements. Some requirements are as simple as installing a functional security alarm, while others require facilities to meet certain design specifications. At a minimum, most states require installation of an alarm and video surveillance of the premises.

The table below outlines the various security requirements imposed on cultivation centers and dispensaries among the seventeen states:

Table 4-8. Security Requirements for Cultivation Centers and Dispensaries

State	Security Requirements
Arizona[215]	Alarm, video surveillance, exterior lighting, single entrance
Colorado[216]	Lighting, physical security, video, alarm, internal control procedures
Connecticut[217]	Alarm, video surveillance, storage vaults, backup power, failure notification system
Delaware[218]	Alarm, exterior lighting, video surveillance, inventory controls

[204] Vermont Statutes, title 18, section 4474e(k)(1)(E).
[205] Section 36-2816(B), Arizona Revised Statutes.
[206] Section 12-43.3-402(3), Colorado Revised Statutes.
[207] Section 453A.340(1), Nevada Revised Statutes.
[208] Section 126-X:8(XV)(b), New Hampshire Revised Statutes.
[209] Section 7.34.4.8(A)(2), New Mexico Administrative Code.
[210] New York State Tax Law, section 490(8).
[211] Delaware Code, title 16, section 4903A(i)(3).
[212] Connecticut General Statutes sections 21a-408i(b)(B) and 21a-408k(a)(2), for producers; and sections 21a-408h(b)(C) and 21a-408j(a)(3), for dispensaries.
[213] Section 7.34.4.14(D), New Mexico Administrative Code.
[214] Delaware Code, title 16, section 4903A(i)(2).
[215] *See* section R9-17-318, Arizona Administrative Code.
[216] *See* section M 305 and 306 of 1 Colorado Code of Regulations 212-1.
[217] *See* section 21a-408-62, Regulations of Connecticut State Agencies.
[218] *See* section 7.2 of 16 Delaware Administrative Code 4470.

State	Security Requirements
Illinois[219]	Alarm, security plan reviewed by state police including but not limited to: facility access controls, perimeter intrusion detection systems, personnel identification systems, 24-hour interior and exterior surveillance
Maine[220]	Fence, exterior lighting, intrusion detection, video surveillance
Maryland[221]	--
Massachusetts[222]	Alarm, storage vaults, exterior lighting, video surveillance, backup systems, failure notification system
Minnesota[223]	Alarm, facility access controls, perimeter intrusion detection systems, personnel identification system
Nevada[224]	Alarm, single entrance, intrusion detection, exterior lighting, video surveillance, battery backup, failure notification system
New Hampshire[225]	Lighting, physical security, video security, alarm requirements, measures to prevent loitering, on-site parking
New Jersey[226]	Alarm, exterior lighting, video surveillance, power backup, automatic notification system
New Mexico[227]	Alarm system
New York[228]	Surveillance system
Oregon[229]	Alarm, video surveillance, safe
Rhode Island[230]	Alarm, emergency notification system, exterior lighting
Vermont[231]	Alarm, exterior lighting, intrusion detection, video surveillance

[219] *See* 410 Illinois Compiled Statutes 130/105(b) and 165(c)(3) and (d)(4) (2013).
[220] *See* sections 2.7.1.1 and 6.8 of 10-144 Code of Maine Rules chapter 122.
[221] Administrative rules are currently being drafted.
[222] *See* 105 Code of Massachusetts Regulations 725.110(D).
[223] *See* chapter 311, section 9(1)(d), Laws of Minnesota 2014.
[224] *See* section 60 of Adopted Regulation of the Division of Public and Behavioral Health of the Nevada Department of Health and Human Services No. R004-14.
[225] *See* section 126-X:6(III), New Hampshire Revised Statutes.
[226] *See* sections 8:64-9.7, New Jersey Administrative Code.
[227] *See* section 7.34.4.11, New Mexico Administrative Code.
[228] *See* New York State Public Health Law, section 3366(2).
[229] *See* Section 475.314(3)(e)(A), Oregon Revised Statutes.
[230] *See* sections 2.13 and 5.1.7 of the Rules and Regulations Related to the Medical Marijuana Program [R21-28.6-MMP], Rhode Island Department of Health.
[231] *See* 28-000-003 Code of Vermont Rules section 6.24.

Local Regulation of Distribution in California

As noted previously, California is the only state where distribution of medical marijuana is regulated exclusively at the city and county level.

History of the California Medical Marijuana Program

On November 5, 1996, voters in California approved Proposition 215, the Medical Use of Marijuana Initiative Statute, which led to the enactment of the Compassionate Use Act of 1996 in that state. The following summary of Proposition 215 was prepared by California's Attorney General:[232]

- Exempts patients and defined caregivers who possess or cultivate marijuana for medical treatment recommended by a physician from criminal laws which otherwise prohibit possession or cultivation of marijuana.
- Provides physicians who recommend use of marijuana for medical treatment shall not be punished or denied any right or privilege.
- Declares that measure not be construed to supersede prohibitions of conduct endangering others or to condone diversion of marijuana for non-medical purposes.
- Contains severability clause.

The Compassionate Use Act was later amended by Senate Bill No. 420, also known as the Medical Marijuana Program Act, which was enacted in October 2003 and took effect on January 1, 2004. As stated in section 1(b), the legislative intent of the Medical Marijuana Program Act was to:

(1) Clarify the scope of the application of the act and facilitate the prompt identification of qualified patients and their designated primary caregivers in order to avoid unnecessary arrest and prosecution of these individuals and provide needed guidance to law enforcement officers.

(2) Promote uniform and consistent application of the act among the counties within the state.

(3) Enhance the access of patients and caregivers to medical marijuana through collective, cooperative cultivation projects.

The provisions of the Compassionate Use Act and the Medical Marijuana Program Act are codified in sections 11362.5 - 11362.83 of the California Health and Safety Code. Like Hawaii, California's state law is essentially silent regarding qualifying patients' access to medical marijuana. Since marijuana is classified under federal law as a Schedule I controlled substance, patients in California are unable to obtain a prescription for marijuana. Also, like Hawaii, California does not provide qualifying patients with marijuana, seeds, or advice on how to obtain marijuana. Further, California's state law does not explicitly call upon any state agency or other

[232] California, Attorney General. Summary of Medical Use of Marijuana Initiative Statute. *Available at* http://vote96.sos.ca.gov/Vote96/html/BP/215.htm.

entity to establish a distribution system for medical marijuana. However, certain provisions of the Medical Marijuana Program Act have led to the development of a system of cooperatives and collectives formed by patients and caregivers for the purpose of cultivating medical marijuana.

Cooperatives and Collectives

Although California state law prohibits the cultivation or distribution of medical marijuana for profit, section 11362.765 of the California Health and Safety Code allows a primary caregiver to receive reasonable compensation for services provided to a qualifying patient that enables that patient to use medical marijuana. Section 11362.765 further states that reasonable compensation is permitted to "[a]ny individual who provides assistance to a qualified patient or a person with an identification card, or his or her designated primary caregiver, in administering medical marijuana to the qualified patient or person or acquiring the skills necessary to cultivate or administer marijuana for medical purposes to the qualified patient or person."

In order to "[e]nhance the access of patients and caregivers to medical marijuana[,]" section 11362.775 of the California Health and Safety Code provides that "[q]ualified patients, persons with valid identification cards, and the designated primary caregivers of qualified patients and persons with identification cards, who associate within the State of California in order *collectively or cooperatively* to cultivate marijuana for medical purposes, shall not solely on the basis of that fact be subject to state criminal sanctions . . . ." (emphasis added)

Based on the foregoing language, hundreds of cooperatives and collectives have been established throughout California.[233] In August, 2008, the Attorney General of California issued its "Guidelines for the Security and Non-Diversion of Marijuana Grown for Medical Use" ("Guidelines").[234] While not having the force and effect of law, the Guidelines provide guidance as to how the Attorney General might choose to proceed with regard to state enforcement. In the Guidelines, the Attorney General differentiates between the terms "cooperatives" and "collectives" as follows:

> 1. **Statutory Cooperatives:** A cooperative must file articles of incorporation with the state and conduct its business for the mutual benefit of its members. No business may call itself a "cooperative" (or "coop") unless it is properly organized and registered as such a corporation under the Corporations or Food and Agricultural Code. Cooperative corporations are "democratically controlled and are not organized to make a profit for themselves, as such, or for their members, as such, but primarily for their members as patrons." The earnings and savings of the business must be used for the general welfare of its members or equitably distributed to members in the form of cash,

[233] Since Senate Bill No. 420 -- The Medical Marijuana Program Act -- was enacted in 2003, the number of medical marijuana cooperatives and collectives has grown at a rapid pace, making it difficult to determine the actual number of cooperatives and collectives that currently exist in California. Making estimates even more difficult is the fact that hundreds of storefront dispensaries are operating across the state, and it is unclear how many are being operated as part of a cooperative or collective.

[234] California, Attorney General. Guidelines for the Security and Non-Diversion of Marijuana Grown for Medical Use. *Available at* http://ag.ca.gov/cms_attachments/press/pdfs/n1601_medicalmarijuanaguidelines.pdf.

> property, credits, or services. Cooperatives must follow strict rules on organization, articles, elections, and distribution of earnings, and must report individual transactions from individual members each year. Agricultural cooperatives are likewise nonprofit corporate entities "since they are not organized to make profit for themselves, as such, or for their members, as such, but only for their members as producers." Agricultural cooperatives share many characteristics with consumer cooperatives. Cooperatives should not purchase marijuana from, or sell to, non-members; instead, they should only provide a means for facilitating or coordinating transactions between members.
>
> 2. **Collectives:** California law does not define collectives, but the dictionary defines them as "a business, farm, etc., jointly owned and operated by the members of a group." Applying this definition, a collective should be an organization that merely facilitates the collaborative efforts of patient and caregiver members – including the allocation of costs and revenues. As such, a collective is not a statutory entity, but as a practical matter it might have to organize as some form of business to carry out its activities. The collective should not purchase marijuana from, or sell to, non-members; instead, it should only provide a means for facilitating or coordinating transactions between members.[235]

While the Attorney General differentiates between cooperatives and collectives, they are essentially treated equally, so long as they are organized with sufficient structure to ensure security, non-diversion of marijuana to illicit markets, and compliance with all state and local laws.[236] To ensure this, the Attorney General makes the following suggestions regarding the operation of a cooperative or collective:[237]

> 1. **Non-Profit Operation**: Nothing in Proposition 215 or the [Medical Marijuana Program Act (MMP)] authorizes collectives, cooperatives, or individuals to profit from the sale or distribution of marijuana . . . .
>
> 2. **Business Licenses, Sales Tax, and Seller's Permits**: The State Board of Equalization has determined that medical marijuana transactions are subject to sales tax, regardless of whether the individual or group makes a profit, and those engaging in transactions involving medical marijuana must obtain a Seller's Permit. Some cities and counties also require dispensing collectives and cooperatives to obtain business licenses.
>
> 3. **Membership Application and Verification**: When a patient or primary caregiver wishes to join a collective or cooperative, the group can help prevent the diversion of marijuana for non-medical use by having potential members complete a written membership application. The following application guidelines should be followed to help ensure that marijuana grown for medical use is not diverted to illicit markets:
>
> a) Verify the individual's status as a qualified patient or primary caregiver. Unless he or she has a valid state medical marijuana identification card, this should involve personal contact with the recommending physician (or his or her agent), verification of the physician's identity, as well as his or her state licensing status.

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[235] *Id.* (Citations omitted.)
[236] *See id.*
[237] *See id.*

Verification of primary caregiver status should include contact with the qualified patient, as well as validation of the patient's recommendation. Copies should be made of the physician's recommendation or identification card, if any;

b) Have the individual agree not to distribute marijuana to non-members;

c) Have the individual agree not to use the marijuana for other than medical purposes;

d) Maintain membership records on-site or have them reasonably available;

e) Track when members' medical marijuana recommendation and/or identification cards expire; and

f) Enforce conditions of membership by excluding members whose identification card or physician recommendation are [sic] invalid or have [sic] expired, or who are caught diverting marijuana for non-medical use.

4. **Collectives Should Acquire, Possess, and Distribute Only Lawfully Cultivated Marijuana**: Collectives and cooperatives should acquire marijuana only from their constituent members, because only marijuana grown by a qualified patient or his or her primary caregiver may lawfully be transported by, or distributed to, other members of a collective or cooperative. (§§ 11362.765, 11362.775.) The collective or cooperative may then allocate it to other members of the group. Nothing allows marijuana to be purchased from outside the collective or cooperative for distribution to its members. Instead, the cycle should be a closed circuit of marijuana cultivation and consumption with no purchases or sales to or from non-members. To help prevent diversion of medical marijuana to nonmedical markets, collectives and cooperatives should document each member's contribution of labor, resources, or money to the enterprise. They also should track and record the source of their marijuana.

5. **Distribution and Sales to Non-Members are Prohibited**: State law allows primary caregivers to be reimbursed for certain services (including marijuana cultivation), but nothing allows individuals or groups to sell or distribute marijuana to non-members. Accordingly, a collective or cooperative may not distribute medical marijuana to any person who is not a member in good standing of the organization. A dispensing collective or cooperative may credit its members for marijuana they provide to the collective, which it may then allocate to other members. (§ 11362.765(c).) Members also may reimburse the collective or cooperative for marijuana that has been allocated to them. Any monetary reimbursement that members provide to the collective or cooperative should only be an amount necessary to cover overhead costs and operating expenses.

6. **Permissible Reimbursements and Allocations**: Marijuana grown at a collective or cooperative for medical purposes may be:

a) Provided free to qualified patients and primary caregivers who are members of the collective or cooperative;

b) Provided in exchange for services rendered to the entity;

c) Allocated based on fees that are reasonably calculated to cover overhead costs and operating expenses; or

d) Any combination of the above.

7. **Possession and Cultivation Guidelines**: If a person is acting as primary caregiver to more than one patient under section 11362.7(d)(2), he or she may aggregate the possession and cultivation limits for each patient. For example, applying the MMP's basic possession guidelines, if a caregiver is responsible for three patients, he or she may possess up to 24 oz. of marijuana (8 oz. per patient) and may grow 18 mature or 36 immature plants. Similarly, collectives and cooperatives may cultivate and transport marijuana in aggregate amounts tied to its membership numbers. Any patient or primary caregiver exceeding individual possession guidelines should have supporting records readily available when:

a) Operating a location for cultivation;

b) Transporting the group's medical marijuana; and

c) Operating a location for distribution to members of the collective or cooperative.

8. **Security**: Collectives and cooperatives should provide adequate security to ensure that patients are safe and that the surrounding homes or businesses are not negatively impacted by nuisance activity such as loitering or crime. Further, to maintain security, prevent fraud, and deter robberies, collectives and cooperatives should keep accurate records and follow accepted cash handling practices, including regular bank runs and cash drops, and maintain a general ledger of cash transactions.

Decentralized Regulation

As noted above, there is no statewide regulation of cooperatives and collectives. Rather, many cities and counties have issued ordinances to regulate the operation of medical marijuana dispensaries run by cooperatives and collectives within their respective jurisdictions. As a result, a patchwork system of regulation has emerged across the state, with regulatory requirements varying greatly between the various cities and counties.[238] In other words, one county might have extensive zoning, operational, and security regulations in place regarding dispensaries, while the neighboring county may ban the operation of dispensaries altogether.

Recent Developments in California

In recent years, the United States Department of Justice has indicated an inclination to defer to state and local enforcement in states that authorize the production, distribution, and

[238] As of this writing, Americans for Safe Access lists 44 cities and 10 counties in California that have issued ordinances to regulate medical marijuana dispensaries, and 193 cities and 20 counties that have banned medical marijuana dispensaries. *Available at* http://www.safeaccessnow.org/california_local_regulations.

possession of medical marijuana, provided that those states establish sufficiently robust and effective regulatory and enforcement systems.[239] However, as noted above, California has no statewide regulation of medical marijuana collectives, cooperatives, and dispensaries. As a result, on October 7, 2011, the four California-based United States Attorneys announced the commencement of coordinated enforcement actions to target illegal operations of the state's commercial marijuana industry.[240] Arguing that large commercial marijuana operations use dispensaries to disguise their illegal activities, federal authorities began a widespread enforcement campaign that included the targeting of medical marijuana dispensaries.[241] Since then, hundreds of medical marijuana dispensaries in California have been shut down by federal authorities.[242]

In addition, two recent California court cases have increased the degree of inconsistency that exists between jurisdictions within the state. In 2013, the California Supreme Court held that neither the Compassionate Use Act nor the Medical Marijuana Program Act preempt the right of a county to ban cooperatives, collectives, or dispensaries within its jurisdiction.[243] Similarly, the Court of Appeals of the Third District of California held that the Compassionate Use Act and the Medical Marijuana Program Act do not preempt a city's police power to prohibit all marijuana cultivation within its jurisdiction.[244] As a result, an increasing number of cities and counties have begun adopting ordinances to ban the operation of dispensaries and the cultivation of marijuana, including cultivation by medical marijuana patients and their caregivers.

In an attempt to establish a statewide system of regulation for medical marijuana, Assembly Bill No. 1894 (AB 1894) was introduced in the California Legislature on February 19, 2014. Had it been enacted, AB 1894 would have, among other things:

(1) Placed regulatory oversight of commercial medical marijuana activities under the state Alcoholic Beverages Commission;

(2) Imposed extensive regulatory requirements on California's medical marijuana industry; and

(3) Authorized the board of supervisors of a county, subject to voter approval, "to impose, by ordinance, a tax on the privilege of cultivating, dispensing, producing, processing, preparing, storing, providing, donating, selling, or distributing cannabis or cannabis products, including a transactions and use tax at any rate specified by the board."

However, on May 29, 2014, the California Assembly voted against passage of AB 1894.

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[239] *See* discussion of United States Department of Justice Guidelines in Chapter 5, *infra*.

[240] *See* News Release, United States Department of Justice, California's Top Federal Law Enforcement Officials Announce Enforcement Actions Against State's Widespread and Illegal Marijuana Industry (Oct. 7, 2011). *Available at* http://www.justice.gov/dea/pubs/pressrel/pr100711.html.

[241] *See id.*

[242] *See* Joe Mozingo, Ari Bloomekatz, and David G. Savage, *U.S. Won't Interfere with States on Marijuana Sales*, Los Angeles Times, Aug. 29, 2013, http://www.latimes.com/local/lanow/la-me-ln-us-wont-interfere-with-states-on-marijuana-sales-20130829-story.html.

[243] *See City of Riverside v. Inland Empire Patients Health and Wellness Center, Inc.*, 56 Cal.4th 729, 753-63, 300 P.3d 494, 506-13 (2013).

[244] *See Maral v. City of Live Oak*, 221 Cal.App.4th 975, 983-85, 164 Cal.Rptr.3d 804, 810-11 (2013).

A similar bill, Senate Bill No. 1262 (SB 1262), was introduced in the California Legislature on February 21, 2014. Had it been enacted, SB 1262 would have established a new regulatory body, the Bureau of Medical Marijuana Regulation, within the state Department of Consumer Affairs. The Bureau would have been required to consult with the California Marijuana Research Program at the University of California regarding the administration and use of medical marijuana. The Bureau would also have been required to set standards for commercial medical marijuana activity, as well as standards for laboratories that test medical marijuana. It should be noted that this bill was considered controversial by some medical marijuana advocates. Among the concerns raised was the fact that the bill appeared to preserve a county's right to ban the operation of dispensaries and cultivation of marijuana within its jurisdiction. It is therefore unclear whether SB 1262, if enacted, would have been effective in reducing the level of inconsistency that exists between the jurisdictions of the state. The California Assembly Appropriations Committee declined to vote on SB 1262, effectively bringing an end to the possibility of the measure's enactment.

Medical Marijuana Programs Resist Simple Categorization

There may be a tendency to want to categorize medical marijuana programs along artificial lines (such as restrictive or nonrestrictive programs) in order to better grasp the similarities and differences of programs established by other states. The reader is cautioned against such an attempted approach, however, given the wide variation in how states have addressed the issues and program characteristics in establishing their medical marijuana programs. Such an approach would seem too simplistic and would ignore significant nuances of each state's program. The following examples may illustrate the point.

Patient dispensing limits and possession limits vary considerably between the states. New Jersey and Vermont both impose dispensing limits of no more than two ounces of usable marijuana in a thirty-day period. On the other hand, New Hampshire's dispensing limit is two ounces per ten-day period -- effectively three times that of New Jersey and Vermont. Also, Colorado and Oregon do not base their dispensing limits on a set period of time. Therefore, it appears that dispensaries in Colorado and Oregon could continue to dispense medical marijuana to a qualifying patient, so long as the patient did not exceed possession limits for that particular point in time. In this sense, it might be interpreted that the New Jersey and Vermont systems are more restrictive, while the Colorado, New Hampshire, and Oregon systems are less restrictive.

Alternatively, one might attempt to look at the annual fees imposed by the states to determine which systems are more or less restrictive. For example, Delaware imposes a $40,000 annual fee and Massachusetts imposes a $50,000 annual fee. Conversely, Arizona imposes a $1,000 annual fee. Connecticut is unusual in this regard since it imposes a $1,000 annual fee for dispensaries, but a $75,000 annual fee for cultivation centers. Therefore, if one were to use annual fees as a benchmark, the Delaware and Massachusetts systems might be considered more restrictive, the Arizona system less restrictive, with Connecticut being somewhere in between.

Similarly, tax treatment of medical marijuana sales might also be used to compare the various state distribution systems. Illinois, Nevada, New York, and Rhode Island have all established a tax or surcharge that applies specifically to the sale of medical marijuana. Arizona, Colorado, Connecticut, Delaware, Maine, Maryland, New Jersey, and New Mexico apply the state sales or gross receipts tax to the sale of medical marijuana. On the other hand, Massachusetts, Minnesota, New Hampshire, Oregon, and Vermont either have no sales tax, or the tax does not apply to the sale of medical marijuana. In this sense, the Illinois, Nevada, New York, and Rhode Island systems might be considered more restrictive, while the Massachusetts, Minnesota, New Hampshire, Oregon, and Vermont systems might be considered less restrictive, with the remaining states somewhere in the middle.

Chapter 5

FEDERAL POSITION ON THE MEDICAL USE OF MARIJUANA

Controlled Substances Act

The Controlled Substances Act, which was enacted by the United States Congress in 1970, is the basis for federal drug policy under which the manufacture, use, possession, and distribution of certain substances is regulated. The Controlled Substances Act establishes five categories, or "schedules," into which controlled substances are placed. Marijuana is classified as a Schedule I substance.[1] This means that the federal government considers marijuana to have a high potential for abuse and no currently accepted medical use in treatment in the United States.[2] The federal position is that marijuana has not met the rigorous safety and efficacy standards of the United States Food and Drug Administration's approval process and that smoking marijuana is a particularly unsafe delivery system that produces harmful effects.[3]

Under the Controlled Substances Act, possession of any amount of marijuana is punishable as follows:

(1) For a first offense:

(A) A term of imprisonment of not more than one year;

(B) A minimum fine of $1,000; or

(C) Both;

(2) For a second offense:

(A) A term of imprisonment of not less than fifteen days, but not more than two years; and

(B) A minimum fine of $2,500; and

(3) For all subsequent offenses:

(A) A term of imprisonment of not less than ninety days, but not more than three years; and

(B) A minimum fine of $5,000.[4]

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[1] 21 U.S.C. § 812(c).
[2] 21 U.S.C. § 812(b).
[3] *See* OFFICE OF NATIONAL DRUG CONTROL POLICY, ANSWERS TO FREQUENTLY ASKED QUESTIONS ABOUT MARIJUANA, *available at* http://www.whitehouse.gov/ondcp/frequently-asked-questions-and-facts-about-marijuana.
[4] 21 U.S.C. § 844.

Further, distributing marijuana or possessing marijuana with the intent to distribute carries penalties ranging from up to five years of imprisonment and a $250,000 fine (in cases involving less than fifty kilograms of marijuana) to life imprisonment and a $10,000,000 fine (in cases involving 1,000 kilograms or more of marijuana).[5] Penalties may be doubled, or tripled for repeat offenders, in cases involving distribution of marijuana to a person under twenty-one years of age or cases where distribution of marijuana or possession of marijuana with intent to distribute occurs within one thousand feet of a school, college, university, or public housing facility or within one hundred feet of a youth center, public swimming pool, or video arcade.[6, 7]

United States Department of Justice Guidelines

On October 19, 2009, the United States Department of Justice issued a memorandum (hereafter 2009 memorandum) to federal prosecutors in the fourteen states that, at that time, had enacted state laws to address the medical use of marijuana.[8] In the 2009 memorandum, the Department of Justice reiterated its commitment to enforcing the Controlled Substances Act in all states, but advised prosecutors to abstain from pursuing cases against individuals for marijuana offenses that did not violate state medical marijuana laws.

The 2009 memorandum stated, in pertinent part:

> The prosecution of significant traffickers of illegal drugs, including marijuana, and the disruption of illegal drug manufacturing and trafficking networks continues to be a core priority in the Department's efforts against narcotics and dangerous drugs, and the Department's investigative and prosecutorial resources should be directed towards these objectives. As a general matter, pursuit of these priorities should not focus federal resources in your States on individuals whose actions are in clear and unambiguous compliance with existing state laws providing for the medical use of marijuana. For example, prosecution of individuals with cancer or other serious illnesses who use marijuana as part of a recommended treatment regimen consistent with applicable state law, or those caregivers in clear and unambiguous compliance with existing state law who provide individuals with marijuana, is unlikely to be an efficient use of limited federal resources. On the other hand, prosecution of commercial enterprises that unlawfully market and sell marijuana for profit continues to be an enforcement priority of the Department. To be sure, claims of compliance with state or local law may mask operations inconsistent with the terms, conditions, or purposes of those laws, and federal law enforcement should not be deterred by such assertions when otherwise pursuing the Department's core enforcement priorities.[9]

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[5] *See* 21 U.S.C. § 841.
[6] *See* 21 U.S.C. §§ 859 and 860.
[7] This overview is representative but not exhaustive. The Controlled Substances Act prohibits and provides additional penalties for related acts, such as cultivating marijuana, selling or transporting paraphernalia, operating a continuing criminal enterprise, investing illicit drug profits, and maintaining drug-involved premises.
[8] *See* Memorandum from Deputy Attorney General David W. Ogden to selected United States Attorneys (Oct. 19, 2009). *Available at* http://www.justice.gov/opa/documents/medical-marijuana.pdf.
[9] *Id.* at 1-2.

The 2009 memorandum emphasized that:

(1) No state can authorize violations of federal law;

(2) Issuance of the memorandum did not alter in any way the Department of Justice's authority to enforce federal law, including prohibitions related to marijuana on federal property; and

(3) The memorandum did not in any way "legalize" marijuana or provide a legal defense to the violation of federal law.[10]

In a subsequent memorandum issued on August 29, 2013 (hereafter 2013 memorandum), the Department of Justice enumerated the following specific nationwide enforcement priorities regarding marijuana:

- Preventing the distribution of marijuana to minors;
- Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels;
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states;
- Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;
- Preventing violence and the use of firearms in the cultivation and distribution of marijuana;
- Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;
- Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and
- Preventing marijuana possession or use on federal property.[11]

The 2013 memorandum noted that the Department of Justice "has not historically devoted resources to prosecuting individuals whose conduct is limited to possession of small amounts of marijuana for personal use on private property[,]" but has generally left enforcement to state and local authorities unless the marijuana-related activities implicated the priorities enumerated above.[12]

The Department of Justice indicated that it is inclined to defer to state and local enforcement in states that authorize the production, distribution, and possession of medical marijuana only if the affected states "implement strong and effective regulatory and enforcement systems that will address the threat those state laws could pose to public safety, public health, and other law enforcement interests."[13]

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[10] *See id.* at 2.
[11] Memorandum from Deputy Attorney General James M. Cole to all United States Attorneys (Aug. 29, 2013). *Available at* http://www.justice.gov/iso/opa/resources/3052013829132756857467.pdf.
[12] *Id.* at 2.
[13] *Id.*

The 2013 memorandum emphasized the need for effective implementation of state regulatory schemes: "Jurisdictions that have implemented systems that provide for regulation of marijuana activity must provide the necessary resources and demonstrate the willingness to enforce their laws and regulations in a manner that ensures they do not undermine federal enforcement priorities."[14] The 2013 memorandum warned that states that enact marijuana legalization schemes but fail to implement them effectively could be subject to federal intervention: "If state enforcement efforts are not sufficiently robust to protect against [the harms that are the bases of the enforcement priorities enumerated above], the federal government may seek to challenge the regulatory structure itself in addition to continuing to bring individual enforcement actions, including criminal prosecutions, focused on those harms."[15]

The 2013 memorandum also explicitly stated that it is intended "solely as a guide to the exercise of investigative and prosecutorial discretion[,]" but "does not alter in any way the Department's authority to enforce federal law, including federal laws relating to marijuana, regardless of state law."[16] The 2013 memorandum further cautioned that "[n]either the guidance herein nor any state or local law provides a legal defense to a violation of federal law, including any civil or criminal violation of the [Controlled Substances Act,]" and that investigation and prosecution that serve an important federal interest may continue regardless of a state's strong and effective regulatory system for marijuana.

It should be noted that the federal government has taken enforcement action in Hawaii and other states, despite these states' adoption of laws authorizing the use of marijuana for medical purposes. For example, a resident of Hawaii County who promoted the use of medical marijuana as part of his ministry was sentenced on April 28, 2014, to sixty months in federal prison after pleading guilty to one count of conspiring to manufacture, distribute, and possess with intent to distribute one hundred or more marijuana plants.[17] It should also be noted, however, that the amount of marijuana at issue in this case far exceeded the amount authorized by state law for personal medical use,[18] and the prosecution centered on sales and distribution rather than personal medical use.[19]

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[14] *Id.* at 2-3.
[15] *Id.* at 3.
[16] *Id.* at 4.
[17] *See* Press Release, United States Department of Justice, Roger and Sherryanne Christie Sentenced to Prison (Apr. 28, 2014). *Available at* http://www.justice.gov/usao/hi/news/1404christie.html.
[18] Current state law limits a qualifying patient's possession of medical marijuana to no more than three mature marijuana plants, four immature marijuana plants, and one ounce of usable marijuana per each mature plant. Section 329-121, HRS.
[19] *See U.S. v. Christie*, No. 1:10-cr-00384-LEK (D. Hawaii 2014).

United States Department of the Treasury Guidelines

Marijuana-related businesses have complained that federal marijuana prohibitions, combined with federal requirements regarding financial institutions, block their access to banking and credit card services and limit them to cash transactions that raise security concerns.[20] This blocking of access to banking services includes the inability of state-authorized marijuana businesses to deposit money received in connection with marijuana-related transactions into financial institutions. Banks have also raised concerns that providing services to marijuana-related businesses could subject them to federal penalties.[21] Given the recent state initiatives to legalize certain marijuana-related activity and the Department of Justice enforcement priorities relating to marijuana, the United States Department of the Treasury issued a memorandum[22] (hereafter Treasury memorandum) on February 14, 2014, to clarify Bank Secrecy Act[23] expectations for financial institutions, such as banks, that seek to provide services to marijuana-related businesses.

Bank Secrecy Act

To detect and deter money laundering and other financial transactions constituting or related to criminal activity, the Bank Secrecy Act requires United States financial institutions to maintain specific records and submit various reports to the federal government, including Suspicious Activity Reports regarding any transaction relevant to a possible violation of a law or regulation.[24] In summary, the Treasury memorandum advises financial institutions to report business dealings with marijuana-related businesses to the Financial Crimes Enforcement Network, an agency of the Department of the Treasury, and to indicate whether or not there is suspicion of any illegal activity, other than a violation of the federal prohibitions against marijuana, or any activity that implicates any of the Department of Justice's enforcement priorities regarding marijuana.

Treasury Memorandum Guidelines

The guidance provided by the Treasury memorandum is intended to "enhance the availability of financial services for, and the financial transparency of, marijuana-related businesses" by clarifying how financial institutions can provide services to such businesses consistent with their obligations to comply with the Bank Secrecy Act.[25] In deciding whether to provide services to a marijuana-related business, the Treasury memorandum recommends that

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[20] *See* Serge F. Kovaleski, *U.S. Issues Marijuana Guidelines for Banks*, New York Times, Feb. 14, 2014, http://www.nytimes.com/2014/02/15/us/us-issues-marijuana-guidelines-for-banks.html.
[21] *See id.*
[22] Memorandum FIN-2014-G001 from the Department of the Treasury, Financial Crimes Enforcement Network, *BSA Expectations Regarding Marijuana-Related Businesses* (Feb. 14, 2014), *available at* http://www.fincen.gov/statutes_regs/guidance/pdf/FIN-2014-G001.pdf. (Hereafter Treasury memorandum.)
[23] 31 U.S.C. § 5311 et seq. Also referred to as the Financial Recordkeeping and Reporting of Currency and Foreign Transactions Act of 1970.
[24] *Id.*
[25] *See* Treasury memorandum, *supra* note 22, at 1.

financial institutions assess the risk of providing services and conduct customer due diligence.[26] The Treasury memorandum clarifies that because "financial transactions involving a marijuana-related business would generally involve funds derived from illegal activity[,]" and because "the obligation to file a [Suspicious Activity Report] is unaffected by any state law that legalizes marijuana-related activity[,]" financial institutions providing financial services to a marijuana-related business are thus required to file suspicious activity reports. [27]

The Treasury memorandum specifies that a financial institution should file a "Marijuana Limited" Suspicious Activity Report if the institution reasonably believes, based on its customer due diligence, that the marijuana-related business it provides service to *does not* implicate any of the priorities enumerated in the Department of Justice's 2013 memorandum[28] or violate state law. The Treasury memorandum advises that a Marijuana Limited report should be limited to identifying the subject and related parties, addresses of the subject and related parties, the fact that the filing institution is filing the report *solely* because the subject is engaged in a marijuana-related business, and the fact that *no additional suspicious activity* has been identified.[29]

Conversely, the Treasury memorandum advises that a financial institution that reasonably believes a marijuana-related business implicates any of the Justice Department's enumerated enforcement priorities or violates state law should file a "Marijuana Priority" Suspicious Activity Report that includes comprehensive details about the enforcement priorities the financial institution believes have been implicated and all pertinent information regarding the financial transactions involved in the suspicious activity.[30] The Treasury memorandum also provides examples of possible signs that a marijuana-related business is involved in money laundering or other criminal activity, such as receiving substantially more revenue than may reasonably be expected given relevant regulations, competition, and population demographics.[31]

Recent Federal Developments

Pending Legislation

There do not appear to be any strong indications that the United States Congress will approve the legalization of marijuana for medical purposes in the near future. However, it is

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[26] The Treasury memorandum recommends that due diligence include "(i) verifying with the appropriate state authorities whether the business is duly licensed and registered; (ii) reviewing the license application (and related documentation) submitted by the business for obtaining a state license to operate its marijuana-related business; (iii) requesting from state licensing and enforcement authorities available information about the business and related parties; (iv) developing an understanding of the normal and expected activity for the business, including the types of products to be sold and the type of customers to be served (e.g., medical versus recreational customers); (v) ongoing monitoring of publicly available sources for adverse information about the business and related parties; (vi) ongoing monitoring for suspicious activity, including for any of the red flags described in this guidance; and (vii) refreshing information obtained as part of customer due diligence on a periodic basis and commensurate with the risk." *Id.* at 2-3.

[27] *Id.* at 3.

[28] *Supra* note 11.

[29] *Supra* note 22, at 3-4.

[30] *Id.* at 4.

[31] *Id.* at 5-6.

possible that Congress will prohibit certain federal spending on enforcement that interferes with state implementation of laws authorizing the use of medical marijuana, which could effectively curtail federal enforcement.

The United States House of Representatives has approved an amendment to an appropriations bill that would, if approved by the Senate and the President, prohibit the United States Department of Justice from spending federal funds in federal fiscal year 2015 to prevent states from implementing state laws that authorize the use, distribution, possession, or cultivation of marijuana for medical purposes.[32]

The measure, House Amendment 748, would amend the Commerce, Justice, and Science, and Related Agencies Appropriations Act of 2015 (H.R. 4660), and states in pertinent part:

> None of the funds made available in this Act to the Department of Justice may be used, with respect to the States of Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Hawaii, Illinois, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Oregon, Rhode Island, South Carolina, Tennessee, Utah, Vermont, Washington, and Wisconsin, to prevent such States from implementing their own State laws that authorize the use, distribution, possession, or cultivation of medical marijuana.[33]

It should be noted that, as currently drafted, the measure would not explicitly preclude federal enforcement of prohibitions against marijuana despite state legalization schemes -- it merely states that the funds provided by the measure are not to be used to prevent states with medical marijuana programs from implementing medical marijuana-related laws -- and could therefore be subject to interpretation. Also, the measure would not affect federal spending for such purposes in subsequent years.

Proposed Legislation

In addition to the pending legislation discussed above, other bills or amendments to existing bills have recently been proposed. For example, on July 24, 2014, an amendment was proposed to a bill being heard by the United States Senate that would recognize the right of states to enact laws that authorize "the use, distribution, possession, or cultivation of marijuana for medical use."[34] The amendment also states that "No prosecution may be commenced or maintained against any physician or patient for a violation of any Federal law (including regulations) that prohibits [the use, distribution, possession, or cultivation of marijuana for medical use] if the State in which the violation occurred has in effect a law [authorizing the use,

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[32] *See* H. Amdt. 748 to H.R. 4660, 113th Cong. (approved by a vote of 219 to 189 on May 30, 2014). *Available at* http://beta.congress.gov/amendment/113th-congress/house-amendment/748.

[33] *Id.*

[34] S.Amdt.3630 to S.2569, 113th Cong. (submitted on July 24, 2014). *Available at* https://beta.congress.gov/amendment/113th-congress/senate-amendment/3630.

distribution, possession, or cultivation of marijuana for medical use] before, on, or after the date on which the violation occurred[.]"[35]

On July 28, 2014, a bill was introduced to the United States House of Representatives that would remove therapeutic hemp[36] and cannabidiol from the definition of marijuana in the Controlled Substances Act.[37] If this bill were enacted, most strains of marijuana would still be prohibited under federal law. However, strains of marijuana with extremely low THC concentrations and cannabidiol oil would effectively become legal on a national basis.

As of this writing, it is unclear whether either of these measures will be voted upon.

Issues Regarding Transportation of Medical Marijuana in Hawaii

Federal law does not allow for the interstate transportation of medical marijuana, or transportation of medical marijuana through federal security checkpoints. Given federal prohibitions, Hawaii's unique geography as a state comprising eight major islands that are separated by ocean raises additional issues regarding the transportation of medical marijuana. The vast majority of passengers who travel between Hawaii and other states, or from one of Hawaii's islands to another, do so primarily via commercial passenger aircraft and traverse federal Transportation Security Administration checkpoints located in airports operated by the State of Hawaii. Also, courts have held that the state's territory is divided by international waters between the state's major islands, and that travel between those islands therefore constitutes interstate travel even though the destinations are within the same state.[38] Federal district and appellate court decisions found that "the State of Hawaii, both in coming into union with and in its annexation to the United States, had not considered or insisted that the *channels* between the various islands of Hawaii were 'historic waters' acquired by Hawaii by prescription."[39] The courts concluded that the airspace above the international waters between Hawaii's islands is likewise a place outside the state's territory and thus transportation through that air space constitutes interstate commerce.[40] In addition, federal law expressly defines interstate air transportation, in pertinent part, as transportation of passengers or property by aircraft as a common carrier for compensation "between a place in . . . Hawaii and another place in Hawaii through the airspace over a place outside Hawaii."[41]

As discussed in Chapter 2, Hawaii law is unsettled with regard to the circumstances in which a qualifying patient or primary caregiver may legally possess or transport medical marijuana outside the home.[42] It should be noted that, in the *Woodhall* case discussed in Chapter

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[35] *Id.*

[36] For the purposes of this bill, "therapeutic hemp" refers to marijuana that has a THC concentration of not more than 0.3 percent.

[37] *See* H.R.5226, 113th Cong. (introduced on July 28, 2014). *Available at* https://beta.congress.gov/bill/113th-congress/house-bill/5226.

[38] *See, e.g., Island Airlines, Inc. v. Civil Aeronautics Board*, 352 F.2d 735 (9th Cir., 1965).

[39] *Id.*, at 742.

[40] *Id.*

[41] 49 U.S.C.A. § 40102(a)(25)(A)(ii).

[42] *See* discussion of Transportation of Medical Marijuana in chapter 2, *supra*.

2, the defendant was a qualifying medical marijuana patient who was arrested in the Kona International Airport for possession of marijuana.[43] Although the Hawaii Supreme Court overturned the patient's conviction based on the specific facts of that case, the court explicitly did *not* decide whether other circumstances, locations, or modes of transportation would allow for the legal transportation of medical marijuana outside the home in Hawaii, much less between islands.[44]

Thus, at present, it does not appear that a qualifying patient or caregiver may transport medical marijuana from one island to another within the State of Hawaii without violating federal and, possibly, state drug enforcement laws.

[43] *See State v. Woodhall*, 129 Hawaii 397, 301 P.3d 607 (2013).
[44] *See id.*, 129 Hawaii at 409-10, 301 P.3d at 619-20.

Chapter 6

SUMMARY

State Medical Marijuana Programs

In 2009, the Bureau conducted a study on the policies and procedures of other state medical marijuana programs with regard to issues of access, distribution, and security. At the time, the Bureau found that, of the thirteen states that had established medical marijuana programs, only three states -- California, New Mexico, and Rhode Island -- had policies and procedures to address these issues. In the five years since that study was completed, the regulatory landscape has changed dramatically. Today, there are twenty-three states that have enacted medical marijuana programs.[1] Eighteen of these have incorporated some form of distribution system,[2] and seventeen of these are regulated at the state level.[3]

As would be expected, there are some issues or program characteristics that all or nearly all of the states with medical marijuana programs have addressed in one fashion or another. For example, universal to all medical marijuana programs are:

- Decriminalization of medical marijuana use;
- Certification by a physician that qualifying patients have a medical condition that would benefit from the medical use of marijuana; and
- Maximum limits on the amount of medical marijuana possessed by a qualifying patient and caregiver.

Nevertheless, how a state addresses other issues or program characteristics likely depends in large part upon a number of factors -- some of which may be unique to that state. As a result, while there are some general similarities, there are many differences as well among the various states' medical marijuana programs. Accordingly, there does not appear to be any one model that can be touted as an exemplary program that all states should follow. Further, only a few states have much of a track record concerning programmatic aspects of a medical marijuana distribution system and such concomitant issues as those relating to cultivation, access, safety, and security. Many of the first states to adopt medical marijuana programs did not originally provide for distribution systems, and the distribution systems are not yet operational in many of the states that only recently established medical marijuana programs.

That said, the seventeen states that provide for some type of statewide regulation of distribution systems have generally addressed, again in varying fashion, the following issues or program characteristics:

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[1] *See* discussion of Medical Marijuana Programs in chapter 3, *supra*.
[2] *See id.*
[3] *See* discussion of State Regulation of Distribution in chapter 4, *supra*.

- Means of regulation of the distribution system;
- Operational requirements, including imposition of fees and taxes, dispensary staff training, patient education information, product labeling;
- Quality and quantity control, including dispensing limits; controls on channels of supply and distribution of medical marijuana; and
- Security requirements for cultivation centers and dispensaries.

Nearly all state medical marijuana programs also have confidential patient registries that are administered by a state agency.

Medical Marijuana Programs Resist Simple Categorization

There may be a tendency to want to categorize medical marijuana programs along artificial lines (such as restrictive or nonrestrictive programs) in order to better grasp the similarities and differences of programs established by other states. The reader is cautioned against such an attempted approach, however, given the wide variation in how states have addressed the issues and program characteristics in establishing their medical marijuana programs. Such an approach would seem too simplistic and would ignore significant nuances of each state's program.

Limited Access Marijuana Product Laws

It should also be noted that a new trend in state legislation appears to be developing. In addition to the twenty-three states with medical marijuana programs, eleven other states have enacted limited access marijuana product laws over the past year that make provision for the use of certain strains of marijuana for limited medical or research purposes.[4] While not as comprehensive as more traditional medical marijuana programs, these limited access laws have the attraction of focusing on strains of marijuana that have little or no psychoactive effects. As a result, an increasing number of states have shown interest in pursuing similar laws.

Recent Federal Action

Despite the growing number of states that have enacted some form of medical marijuana legislation, the federal prohibition on marijuana remains in effect. However, during the past five years, the United States Department of Justice has indicated that it is inclined to defer to state and local enforcement in states that have medical marijuana programs, provided that those states also establish sufficiently robust and effective regulatory and enforcement systems.[5] And in response to concerns that federal prohibition blocks marijuana-related businesses from accessing banking and credit card services, the United States Department of the Treasury has issued

[4] *See* chapter 3, notes 15-34, and accompanying text, *supra*.
[5] *See* chapter 5, notes 13-15, and accompanying text, *supra*.

guidelines to clarify and streamline the federal reporting requirements of financial institutions that serve those businesses.[6]

These developments underscore the fact that, while an efficient distribution system can contribute significantly to the success of any medical marijuana program, ensuring that such a distribution system can be effectively regulated is also of vital importance to stave off increased federal drug enforcement activities that may thwart the operation of a state's medical marijuana program.

Transportation of Medical Marijuana in Hawaii

Nevertheless, these changes in federal drug enforcement policy regarding state medical marijuana programs do not specifically address Hawaii's unique geographic problems. As an island state, Hawaii must contend with a layer of potential federal intervention that other states may not otherwise have to contend with when implementing an efficient medical marijuana dispensing program. Hawaii's medical marijuana patients who travel interisland and to points outside the State must do so almost exclusively through commercial air carriers, placing them within federal law enforcement jurisdiction.[7] The potential for federal prosecution of qualifying patients traveling interisland who possess medical marijuana underscores the need for any medical marijuana dispensing strategy developed by the State of Hawaii to recognize and address this concern.

Moreover, Hawaii state law remains unsettled concerning the transportation of medical marijuana outside the home given, the inconsistency in Hawaii law between the definition of "medical use" in section 329-121, HRS, which includes the "transportation of marijuana," and the prohibition on the use of medical marijuana in any "place open to the public" under section 329-122(c)(2)(E), HRS. The Hawaii Supreme Court's holding in the *Woodhall* case, overturning the patient's conviction, was based on the specific facts of that case, and the court explicitly did *not* decide whether other circumstances, locations, or modes of transportation would allow for the legal transportation of medical marijuana outside the home in Hawaii, much less between islands.[8]

Thus, at present, it does not appear that a qualifying patient or caregiver may transport medical marijuana from one island to another within the State of Hawaii without violating federal drug enforcement laws. However, even if this were not the case, it remains unclear whether a qualifying patient or caregiver may transport medical marijuana from one island to another within the State, or even outside the home *within the same island*, without violating state drug enforcement laws.

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[6] *See* chapter 5, notes 20-31, and accompanying text, *supra.*
[7] *See* chapter 5, notes 38-41, and accompanying text, *supra.*
[8] *See State v. Woodhall,* 129 Hawaii at 409-10, 301 P.3d at 619-20.

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HOUSE OF REPRESENTATIVES
TWENTY-SEVENTH LEGISLATURE, 2014
STATE OF HAWAII

H.C.R. NO. 48 H.D. 2 S.D. 1

HOUSE CONCURRENT RESOLUTION

REQUESTING THE CONVENING OF A TASK FORCE TO DEVELOP RECOMMENDATIONS FOR THE ESTABLISHMENT OF A REGULATED STATEWIDE DISPENSARY SYSTEM FOR MEDICAL MARIJUANA.

WHEREAS, Hawaii's Medical Use of Marijuana Law was enacted on June 14, 2000, as Act 228, Session Laws of Hawaii 2000, to provide medical relief for seriously ill individuals in the State; and

WHEREAS, implementation of Act 228, Session Laws of Hawaii 2000, recognizes the beneficial use of marijuana in treating or alleviating pain or other symptoms associated with certain debilitating illnesses, and recognizes the medical benefits of marijuana; and

WHEREAS, Hawaii's Medical Use of Marijuana Law is silent on how patients can obtain medical marijuana if they or their caregivers are unable to grow their own supplies of medical marijuana; and

WHEREAS, many of the State's almost 13,000 qualifying patients lack the ability to grow their own supply of medical marijuana due to a number of factors, including disability, limited space to grow medical marijuana, and an inadequate supply of medical marijuana to take care of their medical needs; and

WHEREAS, a regulated statewide dispensary system for medical marijuana is urgently needed by qualifying patients in the State; and

WHEREAS, 20 states and Washington, D.C., have medical marijuana laws, and 13 of these 20 jurisdictions have an active regulated system of dispensaries; and

WHEREAS, several other states are in the process of implementing laws relating to the establishment of dispensaries for medical marijuana; and

WHEREAS, a regulated statewide dispensary system for medical marijuana will enable qualifying patients to obtain an inspected, safe supply of medical cannabis that is labeled as to the composition, strain, and strength of the cannabis to be most helpful to each patient's condition; and

WHEREAS, in response to Act 29, First Special Session Laws of Hawaii 2009, the Legislative Reference Bureau published a report entitled, "Access, Distribution, and Security Components of State Medical Marijuana Programs," which discussed the policies and procedures for access, distribution, security, and other relevant issues related to the medical use of marijuana in all states that had a medical marijuana program; and

WHEREAS, establishment of a tightly regulated statewide dispensary system was the number one recommendation of the 2010 Medical Marijuana Working Group; and

WHEREAS, the transfer of Hawaii's Medical Marijuana Program from the Department of Public Safety to the Department of Health in 2015 is an acknowledgement by the Legislature that the program is a public health program; and

WHEREAS, a tightly regulated dispensary system for medical marijuana will comport with the spirit and intent of the Medical Use of Marijuana Law: compassion for Hawaii's suffering patients and the provision of safe, legal, and reliable access for qualifying patients; and

WHEREAS, there are many models of medical marijuana dispensary systems available in other state jurisdictions, including models that were enacted after the passage of Hawaii's Medical Use of Marijuana Law; and

WHEREAS, to provide equitable access to medical marijuana, the unique geography of the State with its four counties on different islands must be considered in the design and implementation of a regulated statewide dispensary system for medical marijuana; now, therefore,

BE IT RESOLVED by the House of Representatives of the Twenty-seventh Legislature of the State of Hawaii, Regular Session of 2014, the Senate concurring, that the Public Policy Center in the College of Social Sciences at the University of Hawaii at Manoa (Public Policy Center) is requested to convene a Medical Marijuana Dispensary System Task Force (Task Force) to develop recommendations for the establishment of a regulated statewide dispensary system for medical marijuana to provide safe and legal access to medical marijuana for qualified patients; and

BE IT FURTHER RESOLVED that the Task Force be assigned to the Public Policy Center for administrative purposes and is requested to make recommendations and propose legislation on the design and structure of a regulated statewide dispensary system for medical marijuana; and

BE IT FURTHER RESOLVED that the Task Force shall be comprised of:

(1) The Attorney General, or the Attorney General's designee;

(2) The Director of Health, or the Director's designee;

(3) The Director of Public Safety, or the Director's designee;

(4) The Director of Taxation, or the Director's designee;

(5) The Director of Commerce and Consumer Affairs, or the Director's designee;

(6) The Director of the Public Policy Center, or the Director's designee;

(7) The Prosecuting Attorney of the City and County of Honolulu, or the Prosecuting Attorney's designee;

(8) A police chief chosen by the Law Enforcement Coalition, or the police chief's designee;

(9) The Chairperson of the Senate Committee on Health;

(10) The Chairperson of the House Committee on Health;

(11) A state senator who is selected by the Senate President to serve on the Task Force;

(12) A state representative who is selected by the Speaker of the House of Representatives to serve on the Task Force;

(13) A representative from the University of Hawaii College of Tropical Agriculture and Human Resources;

(14) A representative of the Drug Policy Forum of Hawaii;

(15) A physician participating in Hawaii's Medical Marijuana Program;

(16) Two participants in Hawaii's Medical Marijuana Program, one of whom is a patient who is over the age of 18, and one of whom is a parent or guardian of a patient who is under the age of ten;

(17) A caregiver participating in Hawaii's Medical Marijuana Program;

(18) A representative from the American Civil Liberties Union of Hawaii;

(19) A representative from the Hawaii Medical Association; and

(20) A representative from the Coalition for a Drug-Free Hawaii; and

BE IT FURTHER RESOLVED that the issues to be addressed by the Task Force include the appropriate number and location of dispensaries statewide; the design of a tax structure (state and county); location and restriction issues; methodology for ensuring safety of supply; a framework for cultivating and manufacturing medical marijuana products; regulations to ensure security and public safety; restrictions on advertising; issues raised and compliance with any guidelines and/or directives issued by federal agencies with respect to medical marijuana; and

BE IT FURTHER RESOLVED that no later than September 1, 2014, the Legislative Reference Bureau is requested to complete and submit to the Task Force an updated report on the policies and procedures for access, distribution, security, and other relevant issues related to the medical use of cannabis in all states that currently have a medical cannabis program; and

BE IT RESOLVED that, as part of its report, the Legislative Reference Bureau is requested to examine and include information concerning the policies and procedures adopted by other states relating to the growth and cultivation of medical marijuana and the regulation of medical marijuana dispensaries; and

BE IT FURTHER RESOLVED that the Task Force is requested to hold at least one public hearing to receive public input on the updated report received from the Legislative Reference Bureau containing the policies and procedures for access, distribution, security, and other relevant issues related to the medical use of cannabis in all states that currently have a medical cannabis program; and

BE IT FURTHER RESOLVED that the Task Force is requested to submit a report of its findings and recommendations, including any proposed legislation, to the Legislature no later than 20 days prior to the convening of the Regular Session of 2015; and

BE IT FURTHER RESOLVED that certified copies of this Concurrent Resolution be transmitted to the Governor, President of the Senate, Speaker of the House of Representatives, Attorney General, Director of Health, Director of Public Safety, Director of Taxation, Director of Commerce and Consumer Affairs, Director of the Public Policy Center in the College of Social Sciences at the University of Hawaii at Manoa, Prosecuting Attorney of the City and County of Honolulu, Executive Director of the American Civil Liberties Union of Hawaii, Executive Director of the Drug Policy Forum of Hawaii, Dean of the University of Hawaii College of Tropical Agriculture and Human Resources, Executive Director of the Hawaii Medical Association, Law Enforcement Coalition, Executive Director of the Coalition for a Drug-Free Hawaii, and Acting Director of the Legislative Reference Bureau.

Iowa Pharmacy Board Marijuana Review Committee

November 17, 2014 Prepared Remarks of Dale Woolery, Associate Director Iowa Governor's Office of Drug Control Policy

Thank you members of the committee for this opportunity to comment on the request before you to reclassify marijuana from its current status as a Schedule I controlled substance in Iowa.

As you know, state and federal law currently consider marijuana a Schedule I controlled substance, basically defined as having: (a) a high potential for abuse; and (b) no accepted medical use in the U.S.

I will focus my brief comments on these two criteria, and the issue of marijuana research, in the context of what we know about marijuana today.

Regarding marijuana's potential for abuse:

The National Institutes of Health, National Institute on Drug Abuse (NIDA) reported in 2012 that 9% of marijuana users become addicted to the drug. NIDA also reports marijuana can cause or worsen problems pertaining to respiration, impairment, memory, coordination, anxiety, psychosis, and even academic achievement. A NIDA review of marijuana's negative health effects appeared in the New England Journal of Medicine earlier this year. [Attachment 1]

According to the Iowa Department of Public Health, among all Iowans in publicly funded substance abuse treatment, marijuana trails only alcohol as the drug of choice, accounting for 25.6% of the treatment population in Iowa. And, nearly two-thirds (66.3%) of juveniles in treatment say marijuana is their primary drug of abuse.

More Iowans are requiring emergency hospital care due to marijuana-related incidents. The Iowa Department of Public Health reports 949 marijuana-related emergency department visits last year, more than double the number it reported just 7 years ago.

The Iowa Departments of Public Safety and Transportation report 24 marijuana-related traffic fatalities in 2013, or about 7.6% of all deadly traffic crashes last year.

One of the most important, but often overlooked, facts about today's marijuana is its increasing potency. Tetrahydrocannabinol, or THC, is the main psychoactive ingredient in marijuana. According to the University of Mississippi's National Center for Natural Products Research in the University's School of Pharmacy, contracted by NIDA to monitor marijuana in the U.S., the average marijuana THC concentration in this country has steadily risen more than 3-fold over the last 20 years, from an average of 3.75% in 1995 to 12.5% earlier this year.

Newer forms of even more potent marijuana have begun appearing on the scene. In addition to plants bred to contain higher levels of THC, we now also hear about the increasing use of hash oils, marijuana wax and marijuana-infused food items. These newer products are high-octane marijuana with THC levels sometimes exceeding 70%. And, these products are being found in Iowa. Very recently, I was told of two instances in which marijuana wax was found in eastern Iowa, one at a high school and the other at the scene of a fatal traffic crash.

Marijuana's abuse potential is not only high, but it's going even higher and becoming more multi-dimensional in the challenges it presents to us as a society.

Regarding the potential medical uses of marijuana:

The U.S. Food and Drug Administration (FDA) has not approved the use of marijuana as medicine, saying "there is currently sound evidence that smoked marijuana is harmful." Similarly, many national health organizations—including the American Medical Association, American Cancer Society, American Psychiatric Association, Multiple Sclerosis Society and National Institutes of Health—do not support smoked marijuana.

The public discussion that continues in our nation over marijuana is unsettled, to say the least. Mixed in with those sincerely talking about potential medical benefits are others who seemingly are more motivated by money, personal choice, addiction or other reasons.

The Office of Drug Control Policy is concerned with the health and safety of all Iowans. As such, our office supports the development of safe, tested and effective research-driven cannabis-based medicines for use by health care professionals to treat patients with valid medical needs, without compromising the health and public safety of Iowans.

By cannabis-based medicines, I mean non-smokeable, evidence-based and quality-controlled cannabis plant *derivatives* with reduced abuse potential that meet rigorous FDA standards to be deemed safe and effective for treating qualified patients when dosed and dispensed by health care professionals.

Our office does not support other forms of unrefined or broad-based marijuana use, for which research consensus on medical efficacy or quality controls are lacking, and for which public health or safety may be compromised. This includes what is often generally referred to as "medical" marijuana, fitting this broad description.

The cannabidiol oil, or CBD, law passed in Iowa this year to treat patients who have intractable epilepsy with a cannabis oil that is high in CBD and low in THC is an example of how a cannabis-based *derivative* may help those in need, while not getting users high or hurting others. It's my understanding Iowa is one of 11 states enacting a CBD-only law this year, and that a possible allowance for CBD is at least being discussed at the federal level by some in Congress.

Other examples of cannabis-based medicines include Marinol and Cesamet, FDA-approved medications already available by prescription to patients. Sativex, a mouth spray, has almost completed clinical trials and awaits FDA approval. And FDA-authorized clinical trials on Epidiolex, a CBD oil product, are about to begin in a few months, including at the University of Iowa Hospitals and Clinics in Iowa City.

As with the development of other medicines to treat a range of health conditions, cannabis research may not happen as quickly as we would like, but progress is being made. New patient products are in the research pipeline that may lead to market, and I'm optimistic the current national dialogue over marijuana will serve to accelerate even more research.

Regarding marijuana research:

The Office of Drug Control Policy joins with many others in supporting vigorous research into the clinical properties of cannabis and its individual components.

According to the U.S. Drug Enforcement Administration (DEA), more than 200 researchers are currently registered with the DEA to conduct research with marijuana and/or its isolated components, including 3 researchers in the State of Iowa.

The National Institute on Drug Abuse says 28 research projects receiving federal grants are actively studying possible therapeutic uses of marijuana, including potential medical benefits of individual cannabinoid chemicals derived from the cannabis plant. [Attachment 2]

Additionally, NIDA reports 16 independently funded studies into the possible medical benefits of cannabis and/or its isolated components. These projects received federal approval to study marijuana from the University of Mississippi's Marijuana Project. [Attachment 3]

And, on two of the potential cannabis-based medical products I mentioned earlier as being in the research pipeline—one near the end and the other at the beginning—GW Pharmaceuticals says clinical trials of its Sativex product involved about 60 research sites in the U.S., and the upcoming Epidiolex trials may involve up to 50 U.S. research sites, including at least one here in Iowa. In addition to providing important research, these trials provide a monitored form of early product access for understandably anxious participants.

Some say reclassifying marijuana as something other than a Schedule I controlled substance is required to facilitate research. I believe the facts demonstrate otherwise. A Schedule I drug may require additional approvals from the DEA and FDA to ensure high levels of accountability and protection, but I believe that's a good thing.

In summary:

Marijuana currently has a high potential for abuse. That's especially true of the higher-THC marijuana developed over the last several years, and even more-so in light of the fast-emerging new marijuana products that are pushing drug potency levels even higher.

At best, it seems there is no current scientific consensus on potential medical uses for unrefined marijuana in the U.S. The FDA and several national health organizations say no to smoking marijuana as medicine, though some refined cannabis *derivatives* are getting a closer clinical look because of their possible therapeutic value.

Research of marijuana as a Schedule I controlled substance, particularly some of its components with medical potential, is ongoing in the U.S.

Also, down-scheduling a whole drug-type whose potency and abuse potential is rising would send a dangerous message, particularly to young Iowans that this addictive drug is somehow relatively safe. Even if unintentional, that could lead to more teen marijuana use and even greater public health and safety challenges in Iowa.

Finally, and importantly, marijuana remains a Schedule I controlled substance under federal law.

For all of these reasons, the Office of Drug Control Policy respectfully requests you recommend marijuana remain a Schedule I controlled substance in Iowa.

This concludes my prepared remarks. I'm happy to try and answer any questions you may have, and I also want to offer the Office of Drug Control Policy as a resource moving forward.

Thank you again to the members of this committee and the Iowa Pharmacy Board and its staff for allowing me to share information with you today.

Respectfully Submitted by
Dale R. Woolery, Associate Director
Iowa Governor's Office of Drug Control Policy
November 17, 2014

Attachments:

1. NIH News Release, "NIDA Review Summarizes Research on Marijuana's Negative Health Effects," June 4, 2014.

2. NIH/NIDA, "NIDA Research on the Therapeutic Benefits of Cannabis and Cannabinoids," Revised Online March 2014.

3. NIH/NIDA, "Independently Funded Studies Receiving Research Grade Marijuana, 1999 to Present," Revised Online June 2014.

National Institute on Drug Abuse
The Science of Drug Abuse & Addiction

NIDA Research on the Therapeutic Benefits of Cannabis and Cannabinoids

Print

Revised March 2014

Currently there is considerable interest in the possible therapeutic uses of marijuana (see our fact sheet, "Is Marijuana Medicine?"). As of January 31, 2014, there were 28 active grants related to this topic, funded by NIDA, in 6 different disease categories (see table, below). Therapeutic research is defined here as projects that include (as at least one of their specific aims) investigation of the potential medical benefit of the marijuana plant (*Cannabis sativa*) or its constituent *cannabinoid* chemicals in human or animal models of disease.

Most of these research projects are examining the medical benefits of individual cannabinoid chemicals derived from or related to those in the marijuana plant, not the plant itself, although a few use unprocessed plant material. Individual cannabinoid chemicals may be isolated and purified from the marijuana plant or synthesized in the laboratory, or they may be naturally occurring (endogenous) cannabinoids found in the body and modified using other, non-cannabinoid chemicals.

Specifically, cannabinoids are classified here as:

- **Plant** – plant leaves, flowers, stems, and seeds collected from the *Cannabis sativa* plant and ingested in some form (cigarettes, vapor); also known as phytocannabinoids.
- **Endogenous** – cannabinoids made by the body: *N*-arachidonoylethanolamine or anandamide (AE) or 2-arachidonoylglycerol (2-AG). AE and 2-AG activity is manipulated by inhibiting their corresponding hydrolases FAAH or MAGL, preventing their degradation.

- **Purified** – naturally occurring cannabinoids purified from plant sources: Cannabidiol (CBD), D9-tetrahydrocannabinol (THC), and Sativex (mixture of THC and CBD).
- **Synthetic** –cannabinoids synthesized in a laboratory: CB1 agonists (CPP-55, ACPA), CB2 agonists (JWH-133, NMP7, AM1241), CB1/CB2 nonselective agonist (CP55,940), Ajulemic Acid (AJA), Nabilone, Dronabinol, and several other proprietary chemicals in development as potential cannabinoid agonists and antagonists for therapeutic use.

How the Portfolio Analysis Was Conducted:

- An internal NIH database (QVR) was searched on January 31, 2014 using the following: TEXT word string "cannabinoid OR cannabis OR marijuana"; active grants
- 317 grants were manually screened to identify studies in which at least one specific aim included a therapeutic focus.
- 28 projects were identified (25 projects + 3 supplements) and are listed in the table below.

In the table, projects are divided into six disease categories: *autoimmune diseases*, *inflammation*, *pain*, *psychiatric disorders*, *seizures*, and *substance use disorders* (*SUDs*). Clicking on individual project titles leads to their descriptions in NIH RePorter. Also listed are the cannabinoid substances being examined and, except in cases when the whole plant was used, whether the studied chemicals are purified from the plant, synthetic, or endogenous; and whether the project uses human or animal subjects.

Autoimmune disease

Project Title	Cannabinoid	Study Model
TRANSDERMAL DELIVERY OF 2-ARACHIDONOYL GLYCEROL (2-AG) FOR THE TREATMENT OF ARTHR	Endogenous (2-AG)	Animal

Inflammation

Project Title	Cannabinoid	Study Model
	Purified (THC)	Animal

Project Title	Cannabinoid	Study Model
CANNABINOID EPIGENOMIC AND MIRNA MECHANISMS IMPACT HIV/SIV DISEASE PROGRESSION		
CANNABINOID MODULATION OF MICROGLIAL RESPONSE TO THE HIV PROTEIN TAT	Purified and Synthetic (THC and CP55940)	Cell culture and animal models

Pain

Project Title	Cannabinoid	Study Model
BEHAVIORAL ECONOMIC ANALYSIS OF MEDICAL MARIJUANA USE IN HIV+ PATIENTS	Plant (cannabis cigarettes)	Human
CANNABINOID MODULATION OF HYPERALGESIA	Endogenous (AE and 2-AG via URB597 FAAH inhibitor and JZL184 MAGL inhibitor)	Animal
CANNABINOID RECEPTOR AGONISTS FOR TREATMENT OF CHRONIC PAIN	Synthetic (CB2 agonist, proprietary)	Animal
OPTIMIZING ANALGESIA BY EXPLOITING CB2 AGONIST FUNCTIONAL SELECTIVITY	Synthetic (CB2 agonists, proprietary)	Animal
PERIPHERAL FAAH AS A TARGET FOR NOVEL ANALGESICS	Endogenous (AE via FAAH inhibitor (URB937))	Animal
THE EFFECT OF VAPORIZED CANNABIS ON NEUROPATHIC PAIN IN SPINAL CORD INJURY	Plant (cannabis, vaporized)	Human

Psychiatric Disorder

Project Title	Cannabinoid	Study Model
CANNABIDIOL MODULATION OF ???-9-THC???S PSYCHOTOMIMETIC EFFECTS IN HEALTHY HUMANS	Purified (Cannabidiol)	Human
		Human

Project Title	Cannabinoid	Study Model
CANNABIS, SCHIZOPHRENIA AND REWARD: SELF-MEDICATION AND AGONIST TREATMENT?	Synthetic and Plant (Dronabinol & cannabis cigarettes)	

Seizures

Project Title	Cannabinoid	Study Model
NEW DRUGS TO ENHANCE ENDOCANNABINOID RESPONSES FOR TREATING EXCITOTOXICITY, PHASE	Endogenous (AE via FAAH inhibitors)	Animal

SUD, Withdrawal, and Dependence

Project Title	Cannabinoid	Study Model
CANNABINERGIC MEDICATIONS FOR METHAMPHETAMINE ADDICTION	Synthetic (CB1 agonists and antagonists, proprietary)	Animal
EFFICACY AND SAFETY OF DRONABINOL (ORAL THC) FOR TREATING CANNABIS DEPENDENCE	Synthetic (Dronabinol)	Human
EVALUATION OF NOVEL PHARMACOTHERAPIES FOR THE TREATMENT OF OPIOID DEPENDENCE	Synthetic (Dronabinol, Nabilone)	Human
FAAH-INHIBITOR FOR CANNABIS DEPENDENCE	Endogenous (AE via PF-04457845 FAAH inhibitor)	Human
MARIJUANA RELAPSE: INFLUENCE OF TOBACCO CESSATION AND VARENICLINE	Sythetic (Dronabinol)+/- the noncannabinoid varenicline	Human
MEDICATIONS DEVELOPMENT FOR CANNABIS-USE DISORDERS: CLINICAL STUDIES	Purified (THC) and non-cannabinoids: Gabapentin & Tiagabine	Human
MONOACYLGLYCEROL LIPASE INHIBITORS FOR TREATING OPIOID USE DISORDERS + supplement	Endogenous (2-AG via JZL184 MAGL inhibitor)	Animal
	Synthetic (Nabilone)	Human

Project Title	Cannabinoid	Study Model
NABILONE FOR CANNABIS DEPENDENCE: IMAGING AND NEUROPSYCHOLOGICAL PERFORMANCE + supplement		
NOVEL MEDICATION APPROACHES FOR SUBSTANCE ABUSE	Synthetic (Dronabinol, Project 4)+noncannabinoid lofexidine	Human
NOVEL MEDICATIONS FOR CANNABIS DEPENDENCE	Synthetic (Modify THC and nabilone to create new cannabinoids)	Animal
SATIVEX ASSOCIATED WITH BEHAVIOURAL-PREVENTION RELAPSE STRATEGY AS TREATMENT FOR + supplement	Purified (Sativex) +/- behavioral therapy	Human
STRESS-INDUCED MARIJUANA SELF-ADMINISTRATION: ROLE OF SEX AND OXYTOCIN	Plant (cannabis cigarettes)	Human
TREATMENT OF CANNABINOID WITHDRAWAL IN RHESUS MONKEYS	Purified (THC) and Endogenous (via AEA via FAAH inhibitors)	Animal

Independently Funded Studies Receiving Research Grade Marijuana - 1999 to present

This page was last updated March 2014

National Institute on Drug Abuse
The Science of Drug Abuse & Addiction

Independently Funded Studies Receiving Research Grade Marijuana - 1999 to present

Print

Revised June 2014

Researchers seeking marijuana from the government managed marijuana farm, who are not seeking NIH funding, must have their projects cleared through a Department of Health and Human Services (HHS) scientific review panel. They must also obtain an approved IND application from the Food and Drug Administration (for human studies) as well as a Drug Enforcement Administration registration for a Schedule I controlled substance (for all studies.) More information on the process can be found here.

Below is a list of these independently funded research projects cleared for research grade marijuana since 1999.

1. **A pilot study of the feasibility and safety of controlled trials of medical marijuana to relieve HIV-associated distal symmetric polyneuropathy**
   Investigator: Dennis Israelski, San Mateo County Health Department
2. **The acute effects of smoked cannabis in persons living with HIV/AIDS**
   Investigator: Health Canada
3. **Cannabis for the treatment of HIV-related peripheral neuropathy**
   Investigator: Donald Abrams, Center for Medicinal Cannabis Research, University of California at San Diego
4. **Short-term effects of cannabis therapy on spasticity in multiple sclerosis**
   Investigator: Jody Corey-Bloom, Center for Medicinal Cannabis Research, University of California at San Diego

5. **Sleep and medicinal cannabis**
   Investigator: S. Drummond, Center for Medicinal Cannabis Research, University of California at San Diego
6. **Placebo-controlled double blind trial of medicinal cannabis in painful HIV neuropathy**
   Investigator: R. Ellis, Center for Medicinal Cannabis Research, University of California at San Diego
7. **Impact of repeated cannabis treatment on driving abilities**
   Investigator: T. Marcotte, Center for Medicinal Cannabis Research, University of California at San Diego
8. **Analgesic effects of smoked cannabis**
   Investigator: M. Wallace, Center for Medicinal Cannabis Research, University of California at San Diego
9. **Efficacy of inhaled cannabis in diabetic peripheral neuropathy**
   Investigator: M. Wallace, Center for Medicinal Cannabis Research, University of California at San Diego
10. **Trial of the anti-nociceptive effects of smoked marijuana**
    Investigator: B. Wilsey, Center for Medicinal Cannabis Research, University of California at San Diego
11. **Analgesic effects of vaporized cannabis on neuropathic pain in spinal cord injury**
    Investigator: B. Wilsey, Center for Medicinal Cannabis Research, University of California at San Diego
12. **Analgesic efficacy of smoked cannabis in refractory cancer pain**
    Investigator: M. Wallace, Center for Medicinal Cannabis Research, University of California at San Diego
13. **Treating chemotherapy induced delayed nausea with cannabis**
    Investigator: S. Dibble, Center for Medicinal Cannabis Research, University of California at San Diego
14. **Cannabis for spasticity in multiple sclerosis**
    Investigator: M. Agius, Center for Medicinal Cannabis Research, University of California at San Diego
15. **Marijuana in combination with opioids for cancer pain**
    Investigator: D. Abrams, Center for Medicinal Cannabis Research, University of California at San Diego

16. **Placebo-Controlled, Triple-Blind, Randomized Crossover Pilot Study of the Safety and Efficacy of Five Different Potencies of Smoked or Vaporized Marijuana in 50 Veterans with Chronic, Treatment-Resistant Posttraumatic Stress Disorder (PTSD)**
    Investigator: Rick Doblin, Multidisciplinary Association for Psychedelic Studies (MAPS)

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U.S. Department of Health and Human Services
NIH News
National Institutes of Health

National Institute on Drug Abuse
http://www.drugabuse.gov/

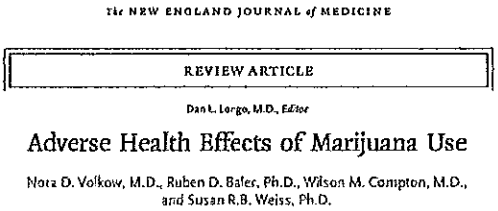
FOR IMMEDIATE RELEASE
Wednesday, June 4, 2014
5 p.m. EDT

Contact: NIDA Press Office
301-443-6245
media@nida.nih.gov

NIDA review summarizes research on marijuana's negative health effects

Comprehensive review published in the New England Journal of Medicine also discusses why risks are greatest for teen users

The current state of science on the adverse health effects of marijuana use links the drug to several significant adverse effects including addiction, a review reports. The article, published today in the New England Journal of Medicine, is authored by scientists from the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health.


The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Dan L. Longo, M.D., Editor

Adverse Health Effects of Marijuana Use

Nora D. Volkow, M.D., Ruben D. Baler, Ph.D., Wilson M. Compton, M.D., and Susan R.B. Weiss, Ph.D.

The review describes the science establishing that marijuana can be addictive and that this risk for addiction increases for daily or young users. It also offers insights into research on the gateway theory indicating that marijuana use, similar to nicotine and alcohol use, may be associated with an increased vulnerability to other drugs.

The authors review literature showing that marijuana impairs driving, increasing the risk of being involved in a car accident and that these risks are further enhanced when combining marijuana with alcohol. The authors also discuss the implications of rising marijuana potencies and note that, because older studies are based on the effects of marijuana containing lower THC – the main psychoactive chemical found in marijuana – stronger adverse health effects may occur with today's more potent marijuana.

The reviewers consider areas in which little research has been conducted. This includes possible health consequences of secondhand marijuana smoke; the long-term impact of prenatal marijuana exposure; the therapeutic potential of the individual chemicals found in the marijuana plant; and effects of marijuana legalization policies on public health.

The scientists focus on marijuana's harmful effects on teens, an age group in which the brain rapidly develops, which is one factor that could help explain increased risks from marijuana use in this population. Research suggests that marijuana impairs critical thinking and memory functions during use and that these deficits persist for days after using. In addition, a long-term study showed that regular marijuana use in the early teen years lowers IQ into adulthood, even if users stopped smoking marijuana as adults.

The NIDA-supported 2013 Monitoring the Future Survey says that 6.5 percent of 12th graders report daily or near-daily marijuana use, with 60 percent not perceiving that regular marijuana use can be harmful. "It is important to alert the public that using marijuana in the teen years brings health, social, and academic risk," said lead author and NIDA Director Dr. Nora D.

Volkow. "Physicians in particular can play a role in conveying to families that early marijuana use can interfere with crucial social and developmental milestones and can impair cognitive development."

This review emphasizes that marijuana use is likely to increase as state and local policies move toward legalizing marijuana for medical or recreational purposes. As use increases, so might the number of people likely to suffer negative health consequences, the review says.

For more information on marijuana and its health consequences, go to: www.drugabuse.gov/publications/drugfacts/marijuana.

Reference: Adverse Health Effects of Marijuana Use, by Nora D. Volkow, M.D., Ruben D. Baler, Ph.D., Wilson M. Compton, M.D., and Susan R.B. Weiss, Ph.D., published online June 4, 2014 in The New England Journal of Medicine

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The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found on the NIDA home page at www.drugabuse.gov, which is now compatible with your smartphone, iPad or tablet. To order publications in English or Spanish, call NIDA's Drug*Pubs* research dissemination center at 1-877-NIDA-NIH or 240-645-0228 (TDD) or fax or email requests to 240-645-0227 or drugpubs@nida.nih.gov. Online ordering is available at http://drugpubs.drugabuse.gov. NIDA's media guide can be found at http://drugabuse.gov/mediaguide/, and its new easy-to-read website can be found at www.easyread.drugabuse.gov.

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11/17/14

Iowa Board of Pharmacy Examiners
Marijuana Review Committee

General Comments:

1. Current of review of evidence – The original report that I provided the Board of Pharmacy in 2009 is currently being updated, but the results are not yet finalized. The systematic review of randomized controlled trials used to treat analgesia is nearly complete. We are in the process of writing up the results for publication.

    a. Changes from the previous review (5 years ago) to now:
        - Table – Inhaled cannabis – increased from 4 to 8 studies.
        - Table – Oral cannabis extracts – increased from 5 to 7 studies.
        - Table – Dronabinol (delta-9-THC) – increased from 4 to 7 studies.
        - Table – THC+CBD Spay or Oral – increased from 8 to 13 studies.
        - Table – Synthetic analogs, including nabilone – increased from 7 to 14 studies.
    b. General observations:
        - There is a very high placebo response, e.g. 24% may experience an analgesic response while the active treatment may have a 36% response.
        - Eleven of 48 studies showed no difference from placebo, however, half did show some improvement for pain relief, but many studies indicated that adverse events, including psychoactive effects, might limit its usefulness.
        - Many of the studies are based on small numbers of subjects.
        - Very few studies compared the cannabis treatment to other active treatments.

    I have begun the systematic review for use as an anti-emetic and appetite stimulant with Dr. Laura Borgelt and one of her residents from the University of Colorado. I having a meeting later this week to begin a review of the evidence associated with epilepsy and other muscular-skeletal disorders.

2. At the public hearing it was suggested that some think the legislation should be broadened to allow any form of medical marijuana to treat any medical condition. The document that Carl Olsen provided from the WHO Expert Drug Committee emphasizes on page 9 the importance of determining the quality of the medicinal marijuana products. It is fairly common to have fungal and other contaminants in plant products. Also, on that same page it emphasizes that growing conditions can greatly influence the quantity of the various cannabinoids in the plant extract.

For medical purposes, especially to treat an infant with intractable epilepsy, it is essential that no contaminants and a known consistent amount of active ingredient is administered each time. Therefore, it is very important that any new legislation requires the quality and purity of medical marijuana be verified. The question was posed can the College of Pharmacy provide that quality control and batch certification?

a. It would not be practical to expect the College to accomplish this. If individuals around the state are allowed to grow cannabis and process it for medical purposes, the growing should be inspected and testing would likely need to be done at local facilities to allow for rapid turnaround of results. It would seem like it would be necessary to have a scientist, a technician and laboratory in each county to adequately monitor and test. Growing areas would need to be regularly inspected and batch certification testing would need to be done for each harvest of plants so that each batch can be assayed for ingredient content.

3. The main psychoactive component of cannabis, delta-9-tetrahydrocannibinal is an approved marketed drug, dronabinol (Marionol®). The main non-psychoactive compound, cannabadiol, is commercially available as an oral mucosal spray (Nabiximol®) or as an oral solution (Sativex®). Neither are approved in the U.S., but are currently being studied. There is also an approved semi-synthetic cannabinoid, nabilone, and several more under investigation. It may be that rather than approving the growing of cannabis that the public be made aware that the main ingredients of medical marijuana are currently available for prescribing (once cannabadiol gets approved) so it should not be necessary to make growing medical marijuana legal.

Ron Herman

AC4C
ALLIANCE OF COALITIONS FOR CHANGE

Alliance of Coalitions For Change

Keeping It Currently Schedule 1

1. The FDA is the only agency that is enabled to schedule drugs, they have a process for testing for lethality, potentiality for addiction and medical usefulness.

2. For Iowa to go outside of the FDA regulations sets up the opportunity for addicts and dealers to come to Iowa thus potentially increasing the costs for enforcement, treatment and healthcare for all Iowans.

3. This has been discussed and decided by the federal courts to leave marijuana a schedule I drug.

4. The federal government is currently reviewing marijuana as a schedule I drug, it would be prudent for Iowa to wait for more information from this process and be an active participant in this process.

5. There is currently limited research on the benefits and dangers of marijuana, while the active ingredients have been well researched and are part of widely available medication. Expanding the use through rescheduling without a full understanding of the potential side effects presents a dangerous path for Iowa.

Protecting Our Youth if Rescheduled

1. Create a distribution system that relies on only currently licensed medical distributers.

2. "Recommendations" for use from licensed prescribing officials that have training in addiction.

3. Restrictions on the use of marijuana to known, researched conditions i.e. appetite and nausea for those going through cancer treatment.

4. Restrictions on the promotion of the use of marijuana as "medicine" i.e. no public advertising.

5. Limitations on the amount of marijuana allowed to be possessed to a single months of use.

Contact Angie Asa-Lovstad, Director of AC4C at 515-320-0585 or ia.ac4c@gmail.com