

Adult Use Cannabis Task Force Presentations

October 4, 2017 - Meeting # 2

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Department of Safety & Homeland Security

CANNABIS TASK FORCE MEETING

October 4, 2017



CANNABIS TASK FORCE

Marijuana Regulatory Objectives

I. PUBLIC SAFETY: Create a tightly controlled and regulated cannabis market.

- Preventing distribution to minors.
- Preventing the revenue from going to criminal enterprises, gangs and cartels.
- Preventing the diversion of cannabis from states where it is legal to other states.
- Preventing state-authorized cannabis 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 cannabis.
- Preventing drugged driving and other adverse public health consequences associated with cannabis use.



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Marijuana Regulatory Objectives

II. BUILD INTO LEGISLATION AND REGULATIONS A CAPACITY TO CHANGE.

II. REQUIRE REPORTING AND DATA COLLECTION TO GUIDE FUTURE POLICY DECISIONS.



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Marijuana Regulatory Objectives

IV. AGENCY ROLE AND RESPONSIBILITIES

- Create a 3-tier regulatory system for cannabis.
- Create licenses for producers, processors and retailers.
- Enforce laws and rules pertaining to licensees



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Marijuana Regulatory Objectives

What a tightly regulated legal marijuana market would look like:

- Limited number of licenses
- Horizontal integration
- Limited size of cultivation
- Seed-to-sale tracking
- Strict product testing requirements
- Strict environmental and water use requirements
- But there is a Trade-off: A tighter market will mean more production will remain illegal and unregulated.



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Marijuana Regulatory Objectives

RECOMMENDED SIMPLE REGULATORY FRAMEWORK:

Regulatory Area	Goals	Example
Cultivation, production, processing	Manage cultivation; limit supply and diversion; environmental protection	Licensure; production limits; tracking
Sales, consumption, and possession	Limit access by youth; reduce arrests; limit diversion	Age restrictions; size of sale limits; home grow restrictions
Taxes and finance	Limit access by youth; raise revenue	Excise taxes; licensure fees
Public health and safety	Prevent impaired driving; limit abuse and addiction	Drugged driving thresholds; prevention and treatment programs
Governance	Oversee and ensure compliance	Assign authority; provide enforcement resources



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Local Authority & Control

LOCAL POLICE FORCES

- Will have limited to no regulatory responsibility.
 - State Enforcement Agency will oversee compliance with state cannabis laws and regulations in the same manner as with alcohol enforcement
 - Local officers handle virtually no alcohol enforcement outside of underage related offenses and DUI.
 - Local enforcement will be limited to mostly underage possession and/or consumption of cannabis on a day to day basis.

LIMITING CANNABIS RETAIL STORES

- HB110 creates a mechanism for this.
- It is recommended that cannabis statutes mirror current State Law that sets limits on issuance of liquor licenses under 4 Del. C. § 543 and 561.



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Consumer Safety

PACKAGING, LABELING, MARKETING & ADVERTISING

- These regulations would need to be drafted by the Marijuana Commissioner.
- Rules governing the above areas could mirror existing ABC Commissioner Rules that address similar issues relating to alcoholic beverages.
 - ABC Rules 901 (trade practices) and 1301 (advertising and promotion) were put into effect in the interest of consumer safety in mind.

PREVENTING CHILD INGESTION

- It is recommended that criminal statutes be enacted that mirror Title 4 in order to prevent youth access to cannabis and to keep kids out of the dispensaries.
 - 4 Del. C. § 904(e) – Unlawfully Entering a Package Store Under 21
 - 4 Del. C. § 904(f) – Underage Possession and/or Consumption of Alcohol
- Edibles could be accidentally consumed by children. Overconsumption could also occur with edibles due to higher THC concentration in one portion of an edible.



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Criminal Law Concerns

ELIMINATING BLACK & GRAY MARKETS

- The Black Market will never be totally eliminated. Bootlegging alcohol continues even today, 84 years after the end of prohibition.
- Home grows must remain illegal for the following reasons.
 - Unlicensed grows deprive the state of applicable of tax revenue.
 - Unlicensed grows are not subject to the strict regulation guidelines that will ensure public safety.
 - Increased chances of underage access and use.
 - Increased Marijuana diversion, i.e. illicit trafficking by mail order or vehicular transport, would present increased law enforcement problems.
 - Primary enforcement of marijuana “bootleggers” would fall to the state enforcement agency.



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REFERENCES:

- Washington State Liquor and Cannabis Board, “*Cannabis Legalization: Implementing a System of Legally Growing, Processing and Retailing Cannabis*”.
- John Carnevale, Ph.D. Carnevale Associates, LLC
“*Regulating Cannabis: Recommendations on How to Regulate the New Cannabis Industry*”.

Considerations for the Adult Use Task Force

- ▶ Lessons Learned
 - ▶ Operation of the medical marijuana program
 - ▶ Operations in other jurisdictions
 - ▶ National Cannabis Summit
- ▶ Areas of Interest
 - ▶ Product Safety
 - ▶ Food Safety
 - ▶ Packaging

Product Safety

- ▶ Fertilizers
 - ▶ Limit to organic products and formulations
- ▶ Pesticides
 - ▶ Disallowed in medical marijuana program
- ▶ THC and CBD Content
 - ▶ Per serving content of edibles

- ▶ Third Party Testing
 - ▶ Pesticides
 - ▶ Fungus/Mold
 - ▶ Weekly Testing



Food Safety

▶ Edibles

▶ Facilities compliant with Delaware Food Code

▶ Individual Servings

▶ Packaged based on THC/CBD Content

▶ 10 mg per serving, 5 servings per package

▶ Servings delineated or packaged individually

▶ Shelf stable products only – Non-Time/Temperature Controlled for Safety

▶ Candies, gummies

▶ Baked goods



Packaging

- ▶ Opaque
- ▶ Child Resistant
- ▶ FDA Labeling Requirements
 - ▶ Serving size, weight, manufacturer, etc.
- ▶ Warnings
 - ▶ Serving size
 - ▶ THC Content
 - ▶ Appropriate Use
- ▶ Universal Symbol



Source: Colorado - <https://www.colorado.gov/pacific/marijuana/responsible-use>
Washington - <http://apps.leg.wa.gov/wac/default.aspx?cite=314-55-105>
Oregon (pkgs) http://www.oregon.gov/olcc/marijuana/Documents/Packaging_Labeling/Approved_List_Exit_Packages.pdf



Adult Use Cannabis Task Force

Consumer Safety and Local Control

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October 4, 2017



Packaging and Labeling Policy Statement

Cannabis policy reform advocates support packaging and labeling requirements that deter access by minors and advance consumer safety by informing the purchaser of the source of the product, potency, weight, safety warnings, and a complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis. Product specific requirements for packaging and labeling should apply to flower and plant materials, concentrates, and edible and non-edible products. For consumer safety, labeling requirements for all cannabis products should include a complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis used to produce the Retail Cannabis Product. Retail Cannabis Concentrate labeling should include a complete list of solvents and chemicals used in the creation of concentrate. Retail Edible or Non-Edible Cannabis Products should similarly include a complete list of solvents and chemicals used in the creation of the Cannabis Concentrate that was used to produce the Retail Cannabis Product, an ingredients list, and nutritional information.

Proposed Regulations for Packaging and Labeling

Packaging of Retail Cannabis by a Retail Cannabis Store. A Retail Cannabis Store must ensure that all Retail Cannabis is placed within a Container prior to sale to a consumer. If the Container is not Child-Resistant, the Retail Cannabis Store must place the Container within an Exit Package that is Child-Resistant.

Required Labeling Information for Retail Cannabis. A Retail Cannabis Store must include the following information on every Container holding Retail Cannabis:

1. The species of the Retail Cannabis;
2. The name(s) and license number(s) of the Cannabis Cultivation Facility(-ies) where the Retail Cannabis was grown;
3. The Harvest Batch Number assigned to the Retail Cannabis within the Container;
4. The date of harvest;
5. The net weight, in grams to at least the tenth of a gram, of the Retail Cannabis prior to its placement in the Container;
6. The following warning statements:
 - a. “This product is intended for use by adults 21 years and older.”
 - b. “Keep out of the reach of children.”
 - c. “Do not drive a motor vehicle or operate heavy machinery while consuming or impaired by Cannabis.”
7. A required potency statement;
8. A required contaminant testing statement; and

9. A complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis.

Required Potency Statement for Retail Cannabis. A Retail Cannabis Store must ensure the potency of at least the Retail Cannabis’s THC and CBD is included on a label that is affixed to the Container. The potency must be expressed as a range of percentages that extends from the lowest percentage to the highest percentage of concentration for each cannabinoid listed, from every test conducted on that strain of Retail Cannabis cultivated by the same Cannabis Cultivation Facility within the last six months.

Required Contaminant Testing Statement for Retail Cannabis. If a Cannabis Testing Facility tested a Harvest Batch for microbials, mold, mildew, and filth, and all the required test(s) passed, then the Container shall be labeled with a statement of compliance with mandatory contaminant testing required by law.

Required Labeling Information for Retail Cannabis Concentrate. A Retail Cannabis Store must include the following information on every Container holding a Retail Cannabis Concentrate:

1. The species of the Retail Cannabis used to produce the Retail Cannabis Concentrate;
2. The name(s) and license number(s) of the Cannabis Cultivation Facility(-ies) where the Retail Cannabis used to produce the Retail Cannabis Concentrate was grown;
3. The name and license number of the Cannabis Product Manufacturing Facility that produced the Retail Cannabis Concentrate;
4. The Production Batch Number assigned to the Retail Cannabis Concentrate contained within the package;
5. The net weight, in grams to at least the tenth of a gram, of the Retail Cannabis Concentrate prior to its placement in the Container;
6. A complete list of solvents and chemicals used to create the Retail Cannabis Concentrate;
7. The following warning statements:
 - i. “This product is intended for use by adults 21 years and older.”
 - ii. “Keep out of the reach of children.”
 - iii. “This product contains Cannabis.”
 - iv. “Do not drive a motor vehicle or operate heavy machinery while consuming or impaired by Cannabis.”
8. A required potency statement;
9. A required contaminant testing statement; and
10. A complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis used to produce the Retail Cannabis Concentrate contained within.

Required Potency Statement for Retail Cannabis Concentrate. Each Container of Retail Cannabis Concentrate must include a label that contains the potency of at least the Retail Cannabis Concentrate’s THC and CBD, expressed in milligrams for each cannabinoid.

Required Contaminant Testing Statement for Retail Cannabis Concentrate.

1. **Solvent-Based Retail Cannabis Concentrate.** If a Cannabis Testing Facility tested a Production Batch of Solvent-Based Retail Cannabis Concentrate for residual solvents, mold, and mildew, and the required test(s) passed, then the Container must be labeled with a statement of compliance with mandatory contaminant testing required by law.
2. **Food- and Water-Based Retail Cannabis Concentrate.** If a Cannabis Testing Facility tested a Production Batch for microbials, mold, and mildew, and the required test(s) passed, then the Container must be labeled with a statement of compliance with mandatory contaminant testing required by law.

Required Labeling Information for Retail Edible Cannabis Products. A Cannabis Product Manufacturing Facility must ensure that the following information or statement is affixed to every Container holding an Edible Cannabis Product:

1. **Ingredient List.** A list of all ingredients used to manufacture the Edible Cannabis Product; including a list of any potential allergens contained within;
2. **Statement Regarding Refrigeration.** If the Edible Cannabis Product is perishable, a statement that the Retail Cannabis Product must be refrigerated;
3. **Serving Size and Total Active THC Statement.** Information regarding: the size of Standardized Serving Of Cannabis for the product by milligrams, the total number of Standardized Servings of Cannabis in the product, and the total amount of active THC in the product by milligrams;
4. **Statement of Production Date.** The date on which the Edible Cannabis Product was produced;
5. **Statement of Expiration Date.** A product expiration date, for perishable Edible Cannabis Products, upon which the product will no longer be fit for consumption, or a use-by-date, upon which the product will no longer be optimally fresh;
6. The following warning statements:
 - a. “This product is intended for use by adults 21 years and older.”
 - b. “Keep out of the reach of children.”
 - c. “This product contains Cannabis.”
 - d. “The impairing effects of this product may be delayed by two or more hours.”
 - e. “Do not drive a motor vehicle or operate heavy machinery while consuming or impaired Cannabis.”
7. A required potency statement;
8. A required contaminant testing statement; and

9. A complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis used to produce the Retail Edible Cannabis Product contained within.

Required Potency Statement for Retail Edible Cannabis Products. Every Cannabis Product Manufacturing Facility must ensure that a label is affixed to the Container that includes the number of THC servings within the Container, and at least the Retail Cannabis Product's THC and CBD content, expressed in milligrams for each cannabinoid.

Required Contaminant Testing Statement for Edible Cannabis Products. If a Cannabis Testing Facility tested a Production Batch of Retail Edible Cannabis Product for microbials, mold, and mildew, and the required test(s) passed, then the Container shall be labeled with a statement of compliance with mandatory contaminant testing required by law.

Required labeling information for Retail Non-Edible Cannabis Products. A Cannabis Product Manufacturing Facility must ensure that the following information or statement is affixed to every Container holding a Retail Non-Edible Cannabis Product:

1. The name(s) and license number(s) of the Cannabis Cultivation Facility(-ies) where the Retail Cannabis used to produce the Retail Non-Edible Cannabis Product was grown;
2. The Production Batch Number(s) of Retail Cannabis Concentrate(s) used in the production of the Retail Cannabis Product;
3. The name and license number of the Cannabis Product Manufacturing Facility that produced the Retail Cannabis Product;
4. A net weight statement;
5. The Production Batch Number(s) assigned to the Retail Cannabis Product;
6. A statement about whether the Container is Child-Resistant;
7. A clear set of usage instructions for Retail Non-Edible Cannabis Product.
8. The following warning statements:
 - a. "This product is intended for use by adults 21 years and older."
 - b. "Keep out of the reach of children."
 - c. "This product contains Cannabis."
 - d. "The impairing effects of this product may be delayed by two or more hours."
 - e. "Do not drive a motor vehicle or operate heavy machinery while using Cannabis."
9. A required potency statement;
10. A required contaminant testing statement;
11. A complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis used to produce the Retail Edible Cannabis Product contained within; and
12. A complete list of solvents and chemicals used in the creation of any Retail Cannabis concentrate that was used to produce the Retail Cannabis Product.

Required Potency Statement for Retail Non-Edible Cannabis Products. Each Container holding a Retail Non-Edible Cannabis Product shall be labeled with the potency of at least the Retail Non-Edible Cannabis Product’s THC and CBD. The potency shall be expressed in milligrams for each cannabinoid.

Required Contaminant Testing Statement for Non-Edible Cannabis Products. If a Cannabis Testing Facility tested a Production Batch of Retail Non-Edible Cannabis Product for microbials, mold, and mildew, and the required test(s) passed, then the Container shall be labeled with a statement of compliance with mandatory contaminant testing required by law.

Purity and Potency Standards Policy Statement

Cannabis policy reform advocates support purity standards that protect consumers from potentially dangerous adulterants, chemicals, pesticides, molds, fungus, and other contaminants; and packaging and labeling requirements crafted to provide consumers with full disclosure regarding the contents, ingredients, and purity of a cannabis product. It is further recommended that regulations be established to require the use of only organic nutrients and pesticides in the cultivation of Retail Cannabis. Cannabis cultivation facilities should be required to keep and maintain records regarding the application of pesticides and other agricultural chemicals applied to Retail Cannabis. For consumer safety, labeling requirements for all cannabis products should include a complete list of all nonorganic pesticides, fungicides, and herbicides used during the cultivation of the Retail Cannabis used to produce the Retail Cannabis Product. Retail Cannabis Concentrate labeling should include a complete list of solvents and chemicals used in the creation of concentrate. Retail Edible or Non-Edible Cannabis Products should include a complete list of solvents and chemicals used in the creation of the Cannabis Concentrate that was used to produce the Retail Cannabis Product. The implementation of guidelines for required Retail Cannabis Testing will ensure consumers are provided with the information necessary to make informed decisions and consume cannabis safely and responsibly.

Purity and Potency Standards Proposed Regulations

Contaminant Testing Required. Retail Cannabis, Retail Cannabis Concentrates, and Retail Cannabis Products cultivated or produced by Cannabis Cultivation Facilities and Cannabis Product Manufacturing Facilities shall be subject to testing from each Harvest Batch or Production Batch by a Cannabis Testing Facility for contaminants and pass all contaminant tests required by law.

Potency Testing Required. Retail Cannabis shall undergo initial testing and ongoing potency and cannabinoid profile testing. Retail Cannabis Concentrates, and Retail Cannabis Products cultivated or produced by Cannabis Cultivation Facilities and Cannabis Product Manufacturing Facilities shall be subject to testing from each Production Batch by a Cannabis Testing Facility for potency and cannabinoid profile testing.

Required Contaminant Tests.

1. **Microbial Contaminant Testing.** Each Harvest Batch of Retail Cannabis and Production Batch of Water- or Food-Based Retail Cannabis Concentrate and Retail Cannabis Product must be tested for microbial contamination by a Cannabis Testing Facility. The microbial contamination test must include testing to determine the presence of Salmonella sp. and shiga-toxin producing Escherichia coli., and the amount of total yeast and mold.

2. **Residual Solvent Contaminant Testing.** Each Production Batch of Solvent-Based Retail Cannabis Concentrate produced by a Cannabis Product Manufacturing Facility must be tested by a Cannabis Testing Facility for residual solvent contamination. The residual solvent contamination test shall include, but not be limited to, testing to determine the presence of, and amounts present of, butane, heptanes, benzene, toluene, hexane, xylenes or any solvents not approved for use in Cannabis Products.

Required Potency and Cannabinoid Profile Tests.

1. Potency testing shall include the level of concentration of THC, THCA, CBD, and CBN.
2. Initial potency testing of Retail Cannabis shall be conducted by a Cannabis Testing Facility on four Harvest Batches, harvested a minimum of one week apart, for each strain of Retail Cannabis cultivated by a Cannabis Cultivation Facility.
3. After initial potency testing of Retail Cannabis is conducted, a Cannabis Cultivation Facility shall have each strain of Retail Cannabis that it cultivates tested for potency at least once every six months.
4. A Cannabis Product Manufacturing Facility shall have a potency test conducted by a Cannabis Testing Facility on every Production Batch of Retail Cannabis Concentrate that it produces prior to wholesaling, transferring or processing into a Retail Cannabis Product any of the Retail Cannabis Concentrate from that Production Batch.
5. A Cannabis Product Manufacturing Facility shall have a potency test conducted by a Cannabis Testing Facility on every Production Batch of Retail Cannabis Product that it produces prior to wholesaling, transferring or processing any of the Retail Cannabis Product from that Production Batch.
6. Potency tests conducted on Retail Cannabis Product must determine the level of concentration of the required cannabinoids and whether or not THC is homogeneously distributed throughout the product.

Required Contaminant Testing Statement and Potency Statement for Retail Cannabis, Retail Cannabis Concentrates, and Retail Edible and Non-Edible Cannabis Products. *See Recommendations for Packaging and Labeling.*

Application or Pesticide and Other Agricultural Chemicals. A Cannabis Cultivation Facility may only use Pesticide and Other Agricultural Chemicals in accordance with applicable federal, state and local laws, rules and regulations. Regulations shall be established to enumerate Prohibited Chemicals which shall not be used in Retail Cannabis cultivation. Cannabis Cultivation Facilities must keep Pesticides and Other Agricultural Chemicals used in the cultivation process with their original label or a copy thereof at its licensed premises.

Pesticide Application Documentation. A Cannabis Cultivation Facility that applies any Pesticide or other agricultural chemical to any portion of a Retail Cannabis plant, water or

feed used during cultivation or generally within the Licensed Premises must document, and maintain a record on its licensed premises including the date and time of application, the EPA registration number of the Pesticide or CAS number of any other agricultural chemical applied; any of the active ingredients of the Pesticide or other agricultural chemical applied; the brand name and product name of the Pesticide or other agricultural chemical applied; and the total amount of each Pesticide or other agricultural chemical applied.

Nutrient Management Policy Statement

Cannabis policy reform advocates support the use of organic nutrients and policies to ensure that any nutrients used are appropriate for food production. Cultivation operations should follow the manufacturer’s application, storage, and disposal recommendations for the nutrient product. Cultivation operations should not return unused rooting hormone to the source container. Nitrate-based and other oxidizing fertilizers must be stored away from solvents, fuels and pesticides. All non-organic nutrients should be listed on point of sale package labeling. Standards should also be established for carbon dioxide management in facilities utilizing carbon dioxide for worker safety. Carbon dioxide level thresholds should be established and safety regulations implemented prohibiting personnel from entering the cultivation area without protective equipment.

Nutrient Management Proposed Regulations

Nutrient Management in Cannabis Cultivation.

1. While organic nutrients are preferred, nutrients used in cultivation operations must be appropriate for use in agricultural food production.
2. Cultivation operations must follow the manufacturer’s application, storage, and disposal recommendations for the nutrient product.
3. Cultivation operations must not return unused rooting hormone to the source container.
4. Nitrate-based and other oxidizing fertilizers must be stored away from solvents, fuels and pesticides.
5. All non-organic nutrients must be listed on point of sale package labeling.

Carbon Dioxide Utilization and Worker Safety.

1. Indoor cultivation facilities utilizing carbon dioxide must maintain levels under 2000 ppm in cultivation areas when facility personnel may be present.
2. Indoor cultivation facilities utilizing carbon dioxide at levels above 2000 ppm in a sealed room must prohibit personnel from entering the cultivation area unless personal protective equipment is provided.
3. All regulators and environmental control systems that regulate carbon dioxide emissions shall be maintained in good working order and be serviced in accordance with the manufacturer’s recommendations.
4. Compressed gases shall be securely stored and appropriate signage and safety warnings provided and precautions taken for employee safety.

Complaints and Recalls Policy Statement

Cannabis policy reform advocates support the creation of a regulatory structure that protects consumers by providing minimum requirements for the establishment of policies by Cannabis Cultivation Facilities and Cannabis Product Manufacturing Facilities to receive complaints, and implement and communicate recalls of cannabis products.

Complaints and Recalls Proposed Regulations

Product Complaints. Each Cannabis Cultivation Facility and Cannabis Product Manufacturing Facility shall establish policies for receiving and recording product complaints associated with the distribution and use of the cannabis it provides. Such policies must include:

1. A process for submittal of a product complaint to the facility;
2. Identification of the minimum data elements to record for a product complaint;
3. Review of product complaints by a qualified person;
4. A procedure for determining whether to investigate a product complaint; and
5. A procedure for the review and approval of the findings and follow-up action of any investigation performed.

Recall Plan Required. Each Cannabis Cultivation Facility must develop and implement a recall plan addressing at a minimum:

1. Factors which necessitate a recall procedure;
2. Personnel responsible for a recall; and
3. Notification protocols.

Recall Plan Communication Policy Requirements. Each Cannabis Cultivation Facility and Cannabis Product Manufacturing Facility must establish a policy for communicating a recall of cannabis that has been shown to present a probability that the use of or exposure to the product will cause serious adverse health consequences, or could cause temporary or medically reversible adverse health consequences. This policy must include:

1. A mechanism to contact all customers who have, or could have, obtained the cannabis from the Cannabis Cultivation Facility or Cannabis Product Manufacturing Facility, which communication must include information on the policy for return or proper disposal of the recalled product;
2. A mechanism to contact the Cannabis Cultivation Facility or Cannabis Product Manufacturing Facility; and
3. Communication and outreach via media, as necessary and appropriate.

Disposal Requirements for Recalled Cannabis. Any recalled cannabis that is returned to a Cannabis Cultivation Facility or Cannabis Product Manufacturing Facility must be disposed of in a manner that ensures that it cannot be salvaged and will not be used by a compliant individual or by any other person.

Recall Plan Quality Assurance. Each Cannabis Cultivation Facility and Cannabis Product Manufacturing Facility should periodically conduct a mock recall to assess the effectiveness of the recall plan.

Marketing and Advertising Regulations Policy Statement

Cannabis policy reform advocates support marketing and advertising regulations aimed at combating false, misleading, and deceptive advertising; and prohibitions against advertising targeting minors and promoting irresponsible consumption.

Marketing and Advertising Proposed Regulations

Restrictions on Cannabis Advertising. Cannabis advertising may not:

1. Contain statements that are deceptive, false, or misleading;
2. Contain any content targeting individuals under the age of 21, including but not limited to images of minors, cartoon characters, toys, or similar images and items typically marketed towards minors, or references to products that are commonly associated with minors or marketed to minors;
3. Specifically encourage the transportation of Cannabis items across state lines.
4. Display consumption of Cannabis and/or Cannabis Products;
5. Contain material that encourages excessive or rapid consumption.

Advertising Media, Coupons, and Promotions

1. A retail cannabis industry Licensee may not utilize television, radio, billboards, print media, internet advertising, or live event for advertising unless the Licensee has a reasonable expectation that no more than 30 percent of the audience for the program, publication or internet web site, or at the event and/or viewing advertising in connection with the event is reasonably expected to be under the age of 21.
2. A Licensee who advertises via web page must utilize appropriate measures to ensure that individuals visiting the web page are over 21 years of age.
3. A Licensee may not engage in advertising via marketing directed towards location-based devices, including but not limited to cellular phones, unless the marketing is a mobile device application installed on the device by the owner of the device who is 21 years of age or older and includes a permanent and easy opt-out feature.

Local Ordinances. In addition to any requirements within these rules, a Retail Cannabis industry Licensee shall comply with any applicable local ordinances regulating signs and advertising.

Event Sponsorship. A Retail Cannabis industry Licensee may sponsor a charitable, sports, or similar event, but shall not engage in advertising at, or in connection with, an event unless the Licensee has a reasonable expectation that no more than 30 percent of the audience at the event and/or viewing advertising in connection with the event is reasonably expected to be under the age of 21.

Preventing Child Ingestion Policy Statement

Cannabis policy reform advocates support regulations requiring child-resistant packaging for all retail cannabis products, robust “We Card” programs, and the implementation of a public awareness campaign on the responsible consumption of cannabis; which includes safe storage practices, recognizing products that contain cannabis, and taking measures to ensure children do not ingest cannabis. Evidence based education programs for children which build social skills and communication tools necessary for minors to appropriately confront situations in which there is an elevated risk for underage consumption will reduce consumption rates by minors.

Preventing Child Ingestion Proposed Regulations

Child-Resistant Packaging Requirements. All Retail Cannabis, Retail Cannabis Concentrates, and Retail Edible and Non-Edible Cannabis Products must be placed in a Child-Resistant Container at the point of sale. “Child-Resistant” means special packaging that is:

1. Designed or constructed to be significantly difficult for children under five years of age to open and not difficult for normal adults to use properly.
2. Opaque so that the packaging does not allow the product to be seen without opening the packaging material;
3. Resealable for any product intended for more than a single use or containing multiple servings.

Retail Cannabis sales restricted to purchasers with valid identification to verify age.

A Retail Cannabis Store shall refuse the sale of Retail Cannabis, Retail Cannabis Concentrate, or Retail Cannabis Product to anyone, unless such person can produce a form of valid identification showing that the purchaser is 21 years of age or older. The identification must contain a picture, date of birth and must not be expired. Valid forms of identification include:

1. A driver's license or similar type license, issued by any state within the United States or any U.S. Territory;
2. An identification card, issued by any state for the purpose of proof of age.
3. A United States military identification card; or
4. A passport;

Restrictions on advertising targeting minors. *See Recommendations for Marketing and Advertising Regulations*

Responsible Consumption Public Awareness Campaign. House Bill 110 designates funding for an evidence based public education campaign educating youth and adults about the health and safety risks of alcohol, tobacco, and Cannabis. That campaign should include the promotion of practices consistent with the responsible consumption of cannabis, including understanding potency and dosage, safe storage, safety while

impaired, and the safe consumption of different cannabis products including concentrates, edibles, and non-edible cannabis products.

Weights and Measures Policy Statement

Cannabis policy reform advocates support regulations regarding weights and measures to ensure product transparency and provide consumers with the information necessary to engage in responsible consumption of cannabis.

Weights and Measures Proposed Regulations

Common Weights and Measures. Retail Cannabis industry Licensees must utilize a standard of measurement that is supported by the established inventory tracking system to track all Retail Cannabis and Retail Cannabis Products. Regulations shall be established for testing and approval of a scale used to weigh products prior to entry into the inventory tracking system.

Final Weighing and Packaging. A Retail Cannabis industry Licensee shall comply with specific rules associated with the final weighing, labeling, and packaging of Retail Cannabis and Retail Cannabis Product. The scale used to weigh product shall be tested, approved, and calibrated in accordance with measurement standards established by regulation. The net weight statement of a cannabis product shall be based upon the weight prior to placing the product in a Container.

Units of Measure for Retail Cannabis Concentrate. Each Container of Retail Cannabis Concentrate must include a label that contains the potency of at least the Retail Cannabis Concentrate's THC and CBD, expressed in milligrams for each cannabinoid.

Hemp Policy Statement

Cannabis policy reform advocates support the legalization of the cultivation, manufacture, sale, and distribution of industrial hemp in Delaware. Industrial hemp, *Cannabis sativa L*, is a fiber and oil seed crop with a variety of uses, including the manufacture of fiber for injected and molded composite materials, twine, paper, construction materials, and clothing. Seeds are used in the production of industrial oils, cosmetics, medicines, and food. Hemp products are currently sold in Delaware and throughout the United States, but all products are either imported or manufactured from imported hemp. Industrial hemp was historically grown in Delaware and widely throughout the United States from the Colonial Period until the mid-nineteenth century. Industrial hemp's relationship to retail cannabis led to the demise of the commercial production of domestic hemp, although hemp and retail cannabis are genetically different cultivars of the same plant species distinguishable from one another based on their intended use and THC levels. Cultivars for hemp production contain only trace amounts of the psychoactive chemical THC and do not produce the psychoactive effects of retail cannabis. In conjunction with the legalization and implementation of a taxed and regulated market for Retail Cannabis, Retail Cannabis Concentrates, and Retail Cannabis Products; it is recommended that House Bill 110 be amended to include the cultivation, manufacture, distribution, and sale of industrial hemp; and that regulations be established to define industrial hemp and establish guidelines for cultivation, importation of seed, licensing, testing, packaging and labeling, and maintenance of records.

Hemp Proposed Regulations

Industrial Hemp Defined. Industrial hemp means the plants and plant parts of the genera *Cannabis*, the leaves and flowering heads of which do not contain more than 0.3% THC by weight, and includes the derivatives of such plants and plant parts. It also includes the derivatives of non-viable cannabis seed. Industrial hemp does not include plant parts of the genera *Cannabis* that consist of non-viable cannabis seed, other than its derivatives, or of mature cannabis stalks that do not include leaves, flowers, seeds or branches, or of fiber derived from those stalks.

Advertising and Marketing Restrictions. No Licensee shall advertise industrial hemp, its derivatives, or any product manufactured from industrial hemp or its derivatives to imply or directly assert that it is psychoactive.

Potency Testing and Verification of Industrial Hemp. In order to determine the concentration of THC in industrial hemp, a licensed cultivator of industrial hemp shall submit samples of industrial hemp to a Cannabis Testing Facility for initial potency testing to be conducted on four Harvest Batches, harvested a minimum of one week apart, for each strain of Industrial Hemp cultivated by the Licensee. After initial potency testing

of Industrial Hemp is conducted, an Industrial Hemp Cultivation Facility shall have each strain of Industrial Hemp that it cultivates tested for potency at least once every six months.

Health Effects Policy Statement

Cannabis policy reform advocates recommend the development of unbiased, fact-based public education campaigns and publications regarding cannabis consumption, including basic education of the different types of cannabis and cannabis products, the effects of cannabis consumption utilizing different consumption methods and different forms of cannabis products, how to interpret purity, potency, and contaminant labeling, best practices for the consumption of edibles and concentrates, best practices for responsible consumption, best practices for preventing the ingestion of cannabis by minors, impairment issues that may affect driving and other activities, and the current status of scientific and medical research regarding health and safety concerns related to cannabis consumption. The National Institute of Health (NIH) currently has over 20,000 peer-reviewed research articles on cannabis and cannabinoids, including safety efficacy and health benefits of cannabis. Federal agencies such as the National Institute of Medicine, National Institute of Health, National Institute of Drug Abuse, National Cancer Institute, and The Department of Health and Human Services all have official published statements and research on the health benefits of cannabis, including the United States DHSS held Patent, #6630507 on the neuro-protectant and antioxidant abilities of cannabinoids. With regard to establishing a regulatory structure to protect the health of cannabis consumers, policy reform advocates recommend the establishment of clear guidelines, standards, and minimum requirements for testing of Retail Cannabis and Retail Cannabis Products noted in the preceding sections of these recommendations.

Substance Abuse Policy Statement

House Bill 110 earmarks tax revenue to fund evidence based voluntary programs for the treatment of alcohol, tobacco, and cannabis. Cannabis policy reform advocates support regulations that advance the purpose of scientifically and medically accurate public education and substance abuse programs established under the Marijuana Control Act. While the dependence rate for cannabis (9.1%) is far lower than legal substances such as alcohol (15.4%), tobacco (31.9%), and caffeine (35%); the public will benefit from the availability of voluntary substance abuse programs.

Medical Cannabis Policy Statement

House Bill 110 will not alter or interfere with the current medical marijuana program. Cannabis policy reform advocates recommend that regulations be established requiring a Licensee of a Retail Cannabis Store, Cannabis Cultivation Facility, and/or Cannabis Product Manufacturing Facility who is also a Licensee under the Delaware Medical Marijuana Act to maintain separate operations and inventory and not combine any retail products with medical products.

Municipal Authority Policy Statement

A well-regulated market requires uniformity in regulation throughout the state. Cannabis policy reform advocates agree with the provisions of House Bill 110 calling for The Delaware Marijuana Control Act to supersede municipal charter amendments or local ordinances inconsistent with the provisions of the Act and the requirement that a local measure to prohibit the operation of a Cannabis Cultivation Facility, Cannabis Product Manufacturing Facility, Cannabis Testing Facility, or Retail Cannabis Store appear on a general election ballot. Incorporated municipalities may establish zoning regulations and restrictions as permitted by their charter and should adopt reasonable regulations including time, place and manner regulations for the production, processing, sale, and operation of cannabis businesses.

Municipal Authority Proposed Regulations

Local time, place and manner regulations. Municipal regulations and ordinances may be adopted that place:

1. Reasonable conditions on the manner in which a marijuana producer licensed under the law may produce marijuana;
2. Reasonable conditions on the manner in which a marijuana processor licensed under the law may process marijuana;
3. Reasonable conditions on the manner in which a marijuana wholesaler licensed under the law may sell marijuana at wholesale;
4. Reasonable limitations on the hours during which a marijuana retailer licensed under the law may operate;
5. Reasonable conditions on the manner in which a marijuana retailer licensed under the law may sell marijuana items;
6. Reasonable requirements related to the public's access to a premises for which a license has been issued under the law; and
7. Reasonable limitations on where a premises for which a license may be issued under the law may be located.

Guidance for Employers and Employees Policy Statement

House Bill 110 does not affect the employer/ employee relationship or current policies regarding workers compensation, drug testing, or workplace safety. It is the position of cannabis policy reform advocates that employers should remain free to establish policies regarding cannabis after a regulated market is established. It is further our position that employees should continue to engage in the responsible consumption of cannabis, not consume cannabis while working, and not attend work impaired. Improved public awareness and education programs on the effects of different forms of cannabis and the effect cannabis impairment on the performance of different tasks will enhance workplace safety. It is recommended that the public education program called for in House Bill 110 include a component addressing responsible cannabis consumption as it relates to employment and workplace safety.

Definitions

Batch Number. A Batch Number is any distinct group or combination of numbers, letters, or symbols assigned by a Cannabis Cultivation Facility or Cannabis Product Manufacturing Facility to a specific Harvest Batch or Production Batch of Retail Cannabis, Retail Cannabis Concentrate, or Retail Cannabis Product.

Container. A Container is a sealed package in which Retail Cannabis, Retail Cannabis Concentrate, or a Retail Cannabis Product is placed for sale to a consumer. A label must be affixed to each Container in accordance with regulations established for packaging and labeling of cannabis and cannabis product.

Exit Package. An Exit Package is a sealed Container provided by a Retail Cannabis Store at the point of sale in which Retail Cannabis, Retail Cannabis Concentrate, or Retail Cannabis Product already within a Container is placed.

Child-Resistant. “Child-Resistant” means special packaging that is:

1. Designed or constructed to be significantly difficult for children under five years of age to open and not difficult for normal adults to use properly.
2. Opaque so that the packaging does not allow the product to be seen without opening the packaging material;
3. Resealable for any product intended for more than a single use or containing multiple servings.

Harvest Batch. A Harvest Batch is a specifically identified quantity of processed Retail Cannabis that is uniform in strain, cultivated utilizing the same pesticide and other agricultural chemicals and harvested at the same time.

Licensee. A Licensee is any person licensed or registered pursuant to the Delaware Marijuana Control Act.

Pesticide. A Pesticide is any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest or any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant. The term “pesticide” shall not include any article that is a “new animal drug” as designated by the United States Food and Drug Administration.

Production Batch. A Production Batch is any amount of Retail Cannabis Concentrate of the same category and produced using the same extraction methods, standard operating procedures and an identical group of Harvest Batch(es) of Retail Cannabis; or any amount of Retail Cannabis Product of the same exact type, produced using the same ingredients, standard operating procedures and the same Production Batch(es) of Retail Cannabis or Retail Cannabis Concentrate.

ADULT USE CANNABIS TASK FORCE
NOTES FOR ORAL PRESENTATION ON BEHALF OF DSCC
OCTOBER 4, 2017

See Transcript for Exact Testimony

At the first taskforce meeting, DSCC identified 12 issues of concern to many employers. I can reiterate those again upon request. DSCC maintains that each should be addressed or at least considered in drafting any bill.

Objective today: recommend **six specific things** that can be done to increase the probability of support from the business community – or at least to decrease opposition.

First: If employees are enabled through new law to use marijuana despite the objection of DSCC, DSCC proposes that lawmakers keep the risk of that decision on the shoulders of citizens generally and not on employers - by giving employers statutory immunity from suit in the event someone is injured by another and marijuana use is found to be a contributing cause. DSCC realizes that there are some circumstances where statutory immunity might be considered unreasonable; but that is an issue that the lawmakers should address – erring on the side of immunity. *Examples: 14 Del. C. § 4112; 29 Del. C. § 9006A.*

**We leave it to medical community to opine whether marijuana is distinguishable from other controlled but legal substances in determining whether immunity for marijuana issue is reasonable where statutory immunity may not exist elsewhere. Regardless – this bill is pushing a new social reform issue onto employers without agreement about the wisdom of doing so. If that social change is pushed forward, all of society should shoulder it equally – not employers disproportionately. Thus, immunity here should be considered (and passed). Certainly if the GA wants to extend employer immunity to apply to employees who use other controlled substances too, employers would tend to support that increased protection/limitation of liability. Indeed, that may drive more business to DE. But arguing that immunity for marijuana is unreasonable (because it doesn't exist elsewhere) is not, in DSCC's view, a compelling argument. This bill seeks to legalize something that is illegal. That choice (as to this substance) should be treated as unique.*

Second: New law should re-address Title 16, Chapter 49A, at (a)(3)(b). Employers should remain unrestricted in deciding for themselves how they feel about marijuana use (medical or otherwise); and retain the freedom to enforce policy regarding marijuana however they deem best (including a “0

tolerance” policy) – at least for so long as it is a federally-prohibited substance. Thus, 4905A(a)(3)(b) should be deleted. An even better change in the eyes of most employers would be to delete 4905A(a)(3) in its entirety.

4905A(a)(3) should at least define “employer” – nearly (if not all) employment-related statutes do (e.g., 100 WARN; 50 FMLA; 20 ADEA; 15 Title VII; 4 DDEA, etc.).

At a minimum, 4905(a)(3)(b) should be accompanied by a clear statutory (not in a regulation) definition of “impaired” – including a statutory method for testing for “impairment.”

Third. My previous point relates to HB110. I’d like to address Section 4905B. First, the standard at issue here is “under the influence.” Either 4905B should be revised to make “under the influence of” read “impaired by” (as in 4905(a)(3)(b)) or vice versa. In either or both events, the terms should be defined – again with a statutory (not regulatory) method for testing for “under the influence” or “impairment.”

More generally, many employers would like to see heavier revision to 4905B to clarify a much broader retained right for employers. A proposal includes this:

Nothing in Delaware statute or regulation is intended to require an employer to permit or accommodate the use, consumption, possession, transfer, display, transportation, sale, or growing of marijuana, to affect the ability of employers to have policies restricting the use of marijuana by employees, or discharge or otherwise discipline employees based on any issue pertaining to marijuana.

If redrafting as above is not accepted, then at least address 5 major points of that provision:

- (a) If something in Delaware statute or regulation is intended to require such a thing as is being permitted in this new law, the legislators proposing this law should be crystal clear where and what imposes such a requirement so that citizens can be very clear about what employers are being asked to shoulder as responsibility for this new law.

- (b) Particularly because of the phrase “accommodate the use” in 4905A, clarity should be provided – perhaps to an amendment to Title 19, Chapter 7, Subchapter III – that employers have no duty under state law or regulation to provide any accommodations related to marijuana. Again, many employers do not agree with having marijuana use forced upon them; and do not welcome the burden of dealing with the issue. Many feel that it is very easy for non-employers to say that use should be legalized; but then leave it to employers to figure out how to deal with repercussions of that. Such a burden should not be forced upon employers.
- (c) By taking out the phrase “in the workplace” from 4905B, clarity will be provided that an employer retains the right, should it choose to do so, to have a “0 tolerance policy.” Otherwise an absurd result might occur in which employers could, in theory, choose to hire only non-smokers (including on personal time) but the only exception to that would be marijuana smoking. The point is that employers should retain the right (for lower healthcare costs, company image issues, consumer preference reasons, etc.) to not employ marijuana users . . . at least so long as it is federally illegal to use marijuana (and we submit even after such time).
- (d) At a minimum, lawmakers should provide clarity regarding whether the first instance of “in the workplace” in 4905B is meant to modify only “growing of marijuana” or also “use, consumption, possession, transfer, display, transportation, and sale.”
- (e) Furthermore, lawmakers should address the concern that “in the workplace” is too narrow. Or “workplace” should be defined broadly. Employee-owned food delivery vehicles, for example. Such employers might not want the delivery vehicle smelling of marijuana; much less have drivers who are perhaps “under the influence” or “impaired.” The examples could be lengthy. The point is “in the workplace” is too vague and arguably too

narrow. Indeed, several employers have weighed in that the law should be clear that employers may take disciplinary action, up to and including termination of employment, not only for use of marijuana while on duty (or being “impaired by” or “under the influence of” marijuana) but also for possessing signs of marijuana use (which could, for example, include having the smell of marijuana on clothing).

Fourth: Moving onto 4909B, “Nothing in this chapter” should be revised to “Nothing in Delaware law or regulation.” If something in Delaware statute or regulation is intended to require such a thing as addressed in 4909B, the legislators proposing this law should be crystal clear where and what imposes such a requirement so that citizens can be very clear about what employers are being asked to shoulder as responsibility for this new law.

4909B should also be revised to delete the word “a” between the words “controls” and “property.” Thus, this would pertain to non-real and real property alike – such as a company vehicle as well as the company warehouse, office, parking lot, etc. While DSCC categorically opposes legalization of marijuana, DSCC is in favor of a clear provision that makes clear that employers can, in all ways, prohibit everything pertaining to marijuana in space that the employer occupies, owns, or controls; and in or on their occupied, owned, or controlled property.

Fifth: Moving onto another of the 12 issues of concern, as part of this bill, there should be an amendment somewhere in Title 19, Part II, providing that any employee found to be injured in part due to “impairment” or “influence” of marijuana, that employee is not eligible/qualified to receive workers’ compensation benefits and that termination for such “impairment” or “influence” is lawful. Again, a statutory definition should be provided for “impairment” and/or “influence” and a statutory (not regulatory) standard for testing should be included.

Sixth: Moving onto a different of the 12 issues of concern, as part of this bill, there should be an amendment somewhere in Title 19, Part III, providing that any employee becoming unemployed due to any issue pertaining to marijuana (be it absenteeism, tardiness, performance, or prohibited use, consumption, possession, transfer, display, transportation, sale, or growing) is not eligible/qualified to

receive unemployment compensation benefits; and that employers' experience ratings shall not be negatively impacted by such employee's loss of employment. As with the other issues, if the words "impairment" or "influence" are used in such amendment, a statutory definition should be provided for "impairment" or "influence" and a statutory (not regulatory) standard for testing should be included.

Most commonly-stated issue of concern by employers: No law using the words "impairment" or "influence" should be passed until those terms are clearly defined and well-accepted testing methods (confirmed as such by the Delaware medical community) are codified.

Kim Robbins

Delaware Pharmacist Society

The Truth about Marijuana

1. It's helpful for many medical conditions
2. It's less addictive than alcohol
3. It's safe under medical supervision
4. It's a drug with the possibility of serious drug interactions

The Pharmacology of Marijuana

In addition to its recreational use, marijuana has been used (1) to control chemotherapy-induced nausea and vomiting and (2) as an analgesic, antispasmodic, appetite-stimulating agent, sedative, antiepileptic, and euphoric. Side effects associated with tetrahydrocannabinol (THC) include sedation, euphoria, dizziness, ataxia, tachycardia, hypotension, dry mouth, anxiety, and paranoia. THC is the primary psychoactive constituent of marijuana, but the plant contains more than 50 cannabinoids.

In addition to THC, cannabidiol (CBD) is found in high concentrations in marijuana. CBD does not produce any of the psychoactive responses and appears to block some of the effects of THC by acting as an antagonist at the cannabinoid receptors. Cannabinol is weakly psychoactive and appears to be primarily formed from the metabolism of THC. Another metabolite of THC is thought to contribute to the tachycardia and appetite-stimulating effects of cannabis.[1,2]

The common natural sources of THC are *Cannabis sativa* and *Cannabis indica*. These differ in that *C sativa* is known to produce more of a "high" and lively feeling than *C indica*, which tends to produce a more relaxed feeling. This difference in response may be due to the THC:CBD ratios in the 2 plants. *C sativa* usually has a higher concentration of THC, while CBD predominates in *C indica*.

Commercial preparations of oral THC are available as dronabinol (Marinol) and nabilone (Cesamet). Both of these preparations only contain THC without any CBD. Thus, the pharmacologic effect of these products may differ from that of natural cannabis.

Unfortunately, few data sources are available regarding the potential drug interactions associated with marijuana. Nevertheless, we can make some predictions of potential interactions based on the known pharmacology of marijuana. [3].

CYP450 Enzymes

Cytochrome P450 (CYP450) enzymes are responsible for the metabolism of most chemicals and medications that enter the human body. Humans have roughly 60 CYP genes. CYP450 enzymes occur primarily in liver cells where drug metabolism occurs.

Chemicals or drugs may be substrates, inhibitors or inducers of CYP450 enzymes. Substrates are substances that are metabolized by the enzyme, Inhibitors reduce the activity of the enzyme, preventing the metabolism of its substrates and thus increasing the substrate concentration and effect. Inducers, on the other hand, increase the activity of the enzyme, enhancing the metabolism of its substrates and thus decreasing the substrate concentration and effect. [4]

The CYP1A2, CYP3A4, CYP2C9, and CYP2C19 enzymes are known to be affected by marijuana use. [5,6]

There are 311 medication interactions with marijuana according to Medscape. [7]

Just a few Medications that are contraindicated with Marijuana:

1. Pimozide (Orap): Antipsychotic.
Marijuana increases levels of pimozide by decreasing metabolism. Risk of QT interval prolongation (Heart issues)
2. Buprenorphine(Suboxone) and Levomethadyl (Orlaam) : Opiate dependence.
Additive effect. Central nervous system depression leads to respiratory depression, coma and death.
3. Dihydroergotamine (Migranal) and Ergotamine (Cafergot): Migraine management
Marijuana will increase the levels and/or effects of migraine medication by affecting hepatic CYP3A4 metabolism. (Overdose-seizures, weak pulse, death)
4. Dronedarone (Multaq) and Ranolazine (Ranexa): Heart Arrhythmias
Marijuana will increase the levels and or effect of the heart arrhythmia medication by affecting the hepatic CYP3A4 metabolism. (Overdose- low blood pressure, weak heart beat)
5. Macrolides (Erythromycin, Biaxin, Z-pak, EES, Eryc): Antibiotic
Marijuana will increase the levels and or effect of the macrolide medication by affecting the hepatic CYP3A4 metabolism (neurotoxicity, acute delirium or psychosis)
6. Statins (Zocor, Lipitor, Mevacor, etc): Cholesterol.
Marijuana will increase the levels and or effect of the Statin medication by affecting the hepatic CYP3A4 metabolism. (life-threatening muscle damage called rhabdomyolysis, kidney and liver failure)
7. Thioridazine (Mellaril) and Setindole (Sedolect): Schizophrenia
Marijuana will increase the levels and or effect of the psychotic medication by affecting the hepatic CYP3A4 metabolism. (arrhythmias, coma, seizures, etc)
8. Metformin (Glucophage) and Glipizide (Glucotrol): Type II Diabetes
Marijuana decreases the effect of the diabetes medication by pharmacodynamic antagonism. (increase blood glucose levels)
9. Benzodiazepines (Xanax, Ativan, Klonopin, Valium): Anxiety
Marijuana will increase the levels and or effect of the benzodiazepine by affecting the hepatic CYP3A4 metabolism. (Overdose, CNS depression, coma, death)

Other popular medications with a significant interaction with Marijauna:

Theophylline

Duloxetine (Cymbalta)

Estrogens

Melatonin

Propranolol

Tizanidine (Zanaflex)

Carbamazepine

Phenobarbital

Ketoconazole

Fluoxetine (Prozac)

Phenytoin

Sildenafil (Viagra)

Tramadol

Trazodone

Oxycodone

Oxymorphone

Baclofen

Buspirone

Butabarbital

Carisoprodol

Carvedilol

Chlordiazepoxide

Chlorpheniramine

Codeine

Warfarin

Cyclobenzaprine

Prednisone

Diltiazem

Doxepin

Haloperidol

Hydrocodone

Hydromorphone

Hydroxyzine

Insulin

Methadone

Methamphetamine

(Taken directly from the Mayo Clinic Website)

Interactions

Interactions with Drugs

Marijuana may increase the risk of bleeding when taken with drugs that increase the risk of bleeding. Some examples include aspirin, anticoagulants (blood thinners) such as warfarin (Coumadin®) or heparin, antiplatelet drugs such as clopidogrel (Plavix®), and nonsteroidal anti-inflammatory drugs such as ibuprofen (Motrin®, Advil®) or naproxen (Naprosyn®, Aleve®).

Marijuana may affect blood sugar levels. Caution is advised when using medications that may also affect blood sugar. People taking drugs for diabetes by mouth or insulin should be monitored closely by a qualified healthcare professional, including a pharmacist. Medication adjustments may be necessary.

Marijuana may cause low blood pressure. Caution is advised in people taking drugs that lower blood pressure.

Marijuana may interfere with the way the body processes certain drugs using the liver's cytochrome P450 enzyme system. As a result, the levels of these drugs may be increased in the blood and may cause increased effects or potentially serious adverse reactions. People using any medications should check the package insert and speak with a qualified healthcare professional, including a pharmacist, about possible interactions.

Marijuana may increase the amount of drowsiness caused by some drugs. Examples include benzodiazepines such as lorazepam (Ativan®) or diazepam (Valium®), barbiturates such as phenobarbital, narcotics such as codeine, some antidepressants, and alcohol. Caution is advised while driving or operating machinery.

Marijuana may also interact with agents that may affect blood vessel width, agents that may affect the immune system, agents that may be toxic to the liver, agents that may improve breathing or treat lung disorders, agents that may increase appetite, agents that may treat heart disorders, agents that may treat nausea or vomiting, agents that may treat nervous system disorders, agents that may treat psychiatric disorders, agents that may treat retrovirus infections (HIV), agents that may treat skin disorders, agents that may treat stomach disorders, anabolic steroids, anticancer agents, antipyrene, antiseizure agents, bromo-dragonFLY, cannabinoid CB1 receptor antagonists, central nervous system depressants, cocaine, corticosteroids, dopamine antagonists, ecstasy, estrogens, fertility agents, hormonal agents, nicotine, nonsteroidal anti-inflammatory agents, opioid receptor antagonists, pain relievers, p-glycoprotein-regulated agents, prochlorperazine, sedatives, and synthetic cannabinoids.

Interactions with Herbs and Dietary Supplements

Marijuana may increase the risk of bleeding when taken with herbs and supplements that are believed to increase the risk of bleeding. Multiple cases of bleeding have been reported with the use of Ginkgo biloba, and fewer cases with garlic and saw palmetto. Numerous other agents may theoretically increase the risk of bleeding, although this has not been proven in most cases.

Marijuana may affect blood sugar levels. Caution is advised when using herbs or supplements that may also affect blood sugar. Blood sugar levels may require monitoring, and doses may need adjustment.

Marijuana may cause low blood pressure. Caution is advised in people taking herbs or supplements that lower blood pressure.

Marijuana may interfere with the way the body processes certain herbs or supplements using the liver's cytochrome P450 enzyme system. As a result, the levels of other herbs or supplements may become too high in the blood. It may also alter the effects that other herbs or supplements possibly have on the P450 system.

Marijuana may increase the amount of drowsiness caused by some herbs or supplements.

Marijuana may also interact with anabolic steroids, anticancer herbs and supplements, antioxidants, antiseizure herbs and supplements, barbiturates, benzodiazepines, central nervous system depressants, corticosteroids, dopamine antagonists, fertility herbs and supplements, herbs and supplements that may affect blood vessel width, herbs and supplements that may affect the immune system, herbs and supplements that may be toxic to the liver, herbs and supplements that may improve breathing or treat lung disorders, herbs and supplements that may increase appetite, herbs and supplements that may treat heart disorders, herbs and supplements that may treat nausea and vomiting, herbs and supplements that may treat nervous system disorders, herbs and supplements that may treat psychiatric disorders, herbs and supplements that may treat retrovirus infections (HIV), herbs and supplements that may treat skin disorders, herbs and supplements that may treat stomach disorders, hormonal herbs and supplements, nicotine, nonsteroidal anti-inflammatories, opioid receptor antagonists, pain relievers, p-glycoprotein-regulated herbs and supplements, phytoestrogens, and synthetic cannabinoids.

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Role of the Pharmacists:

As with any drug that enters the body, Pharmacists are expected to complete a prospective drug utilization review (DUR) to assess:

1. Appropriateness of Therapy
2. Appropriate Drug, Dose, Route, and Duration
3. Allergies and Drug Interactions
4. Contraindications
5. Abuse/Misuse/Security

Role of the Pharmacist in Recreational Cannabis Use:

Cannabis is a real drug with real side effects

Pharmacists are the Drug Experts

- Basic Skills
- Necessary Training
- Practical Experience
- Patient-focused mindset

Pharmacists are Health Care Professionals

1. Public Safety
2. Drug interactions/Contraindications
3. Abuse/Misuse/Security

The public trusts us.

If Marijuana is not disseminated by pharmacists, patients will be at risk of medication misuse or potentially harmful drug-drug and drug-disease interactions.

The side effects (rapid CNS effects, orthostatic hypotension, irritability, anxiety, etc) of marijuana are not reasons to keep it illegal, but are reasons to make it available after proper counseling.