

Daniel W. Locke, M.S.

Medical Cannabis Science & Therapeutics

Professional Portfolio

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Career Goals & Program Highlights

When I enrolled in the MCST program, my goal was to better educate my patients on how to utilize medical cannabis. When I started my coursework, I had already owned and operated a medical cannabis physician group for five years. I owed it to my patients to have a better understanding of medical cannabis science to serve them with evidence-based medicine. The required courses Principles of Drug Action and Cannabinoid Pharmacology, Cannabis Chemistry and Drug Delivery, Clinical Effects of Medical Cannabis, and Negative Physical Psychiatric and Social Effects of Cannabis all prepared me to be a better clinician for my patients.

In addition, I chose electives that complemented my life experiences and skills. For instance, I have always been adept at process management, operations, and sales. Therefore, I opted for Medical Cannabis Advocacy for Patients and Public Health and State and Federal Cannabis Laws and Policies. I completed my studies by taking Medical Psychedelic Science and Therapeutics. My goal is to transition into state or federal regulation or to a pharmaceutical company that focuses on medical cannabis and or psychedelics.

Selected Work Samples Overview

The work samples in this portfolio are a small sample of the program's entirety. Included below are the MCST programs learning objectives. The samples I included are from the required courses and electives I chose. There are a mixture of short-answer prompts and research papers. I selected works that show my ability to perform my current role as a cannabis clinician. In addition, I included assignments that proved my ability to work in advocacy and or a state cannabis regulatory agency.

1. Apply knowledge of pharmacology, pathophysiology, clinical assessment, and traditional management strategies of pain and other physical symptoms to identify appropriate candidates for medical cannabis therapy.
2. Apply concepts of pharmacology, pharmacognosy, pharmaceuticals, and pharmacokinetics to determine appropriate cannabis dosing, dosage forms and routes of administration for optimal treatment.
3. Develop monitoring plans to determine effectiveness of medical cannabis therapy and to detect adverse effects of medical cannabis use.
4. Apply concepts of analytical chemistry, pharmacology, pharmacognosy, and pharmaceuticals to assure safe and effective design, development, and manufacture of medical cannabis products.
5. Apply knowledge of analytical toxicology methods to identify, quantify, and interpret results related to cannabinoid use and misuse.
6. Describe negative physical, psychiatric, and psychosocial effects of cannabis in individuals and populations.
7. Participate in health policy decision-making processes by evaluating primary literature to assist policy makers and prescribers in making well-informed decisions about medical cannabis therapy.
8. Apply knowledge of historical and current laws, regulations, and policies to identify, analyze, and advocate for emerging issues related to medical cannabis and health.
9. Identify areas for future research related to science, health effects, and policy of medical cannabis, and describe the challenges associated with such research.
10. Demonstrate a commitment to excellence through continuing professional development and the education and training of patients, healthcare professionals, regulatory bodies, and other relevant stakeholders.

Resume/Curriculum Vitae
DANIEL WAYNE LOCKE

904-403-2595 | danielwlocke@hotmail.com | [LinkedIn](#) | Jacksonville, FL

Entrepreneur | Servant Leader | Social Justice Advocate | A Leader and Catalyst in the Cannabis Industry

Proven entrepreneur seeking to leverage business acumen in state/federal cannabis & psychedelic regulation or a mission-driven pharmaceutical company. Proven track record of managing projects and identifying opportunities on a global level. Entrepreneurial, philanthropic, and results-oriented with subject matter expertise in cannabis regulation (global, state, and federal), cannabis sales, psychedelic research, financial management, sales (B2B and B2C), and marketing. Creative thinker with innovative problem-solving skills. Articulate communicator. Successful multitasker. Outstanding interpersonal capacity with strong leadership acumen that builds rapport with staff members, vendors, and community organizations.

SKILLS

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> • Philanthropy • Team Leadership • Marketing Strategy • Operations Management • Relationship Building | <ul style="list-style-type: none"> • Public Speaking • Community Outreach • Operations Management • Process Management • Team Building | <ul style="list-style-type: none"> • Client Engagement • Inventory Control • Product Marketing • Employee Recruitment/Training |
|---|---|--|

ENTREPRENEURSHIP

Compassionate Care (<https://www.compaltcare.com/>) – Jacksonville, FL

2017 – Present

Founder & CEO

- Founded Compassionate Care, a veteran-owned medical cannabis consultation firm with the mission to provide personalized guidance and support to patients seeking alternative treatments.
- Educate patients in cannabis chemistry, drug delivery, cannabinoid pharmacology, clinical effects of medical cannabis, and cannabis state and federal regulations.
- Oversee leadership development, staff training, and media relations.
- Implement cutting-edge technology for the streamlined expedition of medical cannabis license applications for patients to reduce administrative burden.
- Provide strategic leadership and technical guidance in designing marketing materials for website development.

Key Achievements

- Positioned Compassionate Alternative Care as the premier owner-operated practice in North Florida. Partnered with independent practicing physicians.
- Achieved over \$250K in annual sales and supported 3000+ patients. Grew a customer base with a 65% customer retention rate.
- Hired, supervised, and managed office staff for day-to-day operations, including answering phones, scheduling appointments, and providing product guidance.

Locke Roofing Company – Jacksonville, FL

Founder & CEO

- Determined the scope of work and subsequent feasibility of all bids while negotiating the best value for labor and materials on internally managed projects.
- Facilitated the development of cost estimates from concept to bidding by defining scope timelines, potential setbacks, and limitations.
- Established project parameters for project teams to fulfill the stated mission/vision, including resource allocation aligned to the anticipated workload.
- Recruited, hired, and trained a 6-member sales team and office staff. Obtained necessary permits from landlords, permitting authorities, and other agencies.

Key Achievements

- Increased revenue portfolio and maximized bottom-line profitability through capitalizing on short- and long-term business opportunities and aggressive new market strategies.
- Completed roofing projects. Saved money by carefully seeking alternate vendors without sacrificing quality. Maintained vendor relationships with vendors.
- Directed roofing crews across multiple large-scale, high-profile roofing projects.
- Reduced labor costs by implementing efficient staffing strategies, optimizing processes, and negotiating competitive subcontractor rates.

ADVOCACY WORK

Habitat for Humanity – Jacksonville, FL

Purchasing Director/Fundraising Manager

- Developed budgets for 200 houses annually and managed purchasing operations.

- Hired subcontractors and developed scopes of work for volunteers and subcontractors.
- Implemented warehouse inventory and tool check-in systems.
- Cultivated relationships with manufacturers for donations and secured significant contributions.
- Worked closely with the Board of Directors to secure large donations from individuals and corporate leaders.
- Represented the organization at public speaking engagements to recruit volunteers.

Key Achievements

- Developed and implemented a cost-effective sourcing strategy, ensuring that 90% or more of every dollar went directly toward achieving the organization's mission.
- Negotiated contracts with key suppliers to ensure cost reduction.
- Implemented a supplier performance management program, improving on-time delivery and quality performance.

WORK EXPERIENCE

United States Navy

Search and Rescue Swimmer

- Performed rescues in challenging maritime environments, prioritizing the safety of others in high-risk situations.
- Utilized specialized rescue equipment and medical aid to stabilize and evacuate distressed personnel.
- Experienced in search and rescue planning, risk assessment, and emergency response protocols.
- Demonstrated teamwork and communication skills to collaborate effectively with aircrew, medical personnel, and other rescue teams.

ACCOLADES & AWARDS

Fred King Award

Recipient NE Florida Builders' Association

Philanthropic Contractor of the year 2012

EDUCATION

University of Maryland, School of Pharmacy – Baltimore, MD
Master of Science, Medical Cannabis Science and Therapeutics

May 2024

University of North Florida – Jacksonville, FL
BA Public Relations with a minor in Psychology

CLIENT/PATIENT TESTIMONIALS

Very helpful and compassionate. Walked me through the process and saved my life. I am extremely grateful to the Dr and staff - **Kiann L.**

I love the family environment. Dan always makes the process simple - **Angel J.**

“I went to see Dan recently at Compassionate Alternative Care because the pain management center that was currently handling my MMJ card had decided not to work with patients who were seeking to add the smokable marijuana to the prescription. I was taken aback by their decision not to do what was in the best interest of their patients. I had been a patient there long before medical cannabis became a treatment option in Florida and have spent thousands of \$\$\$ on different treatments for my chronic back issues. It was disturbing to me that my old physician's office would not even consider it on a case-by-case basis; after all, that is what was the intent. To provide a route of administration that would work best for the patient's needs.

Once I contacted Dan at Compassionate Alternative Care, he immediately understood my perspective and told me he'd be happy to take over managing my MMJ card. The process was quick, and Dan was helpful and responsive when it came to getting me in to see the doctor quickly and ensuring I had exactly what I needed.

I like the fact that I can contact Dan directly on his mobile phone if there is something I need about my pain management. That was always a struggle at my previous pain management facility. Contacting the doctor meant a series of phone calls and voicemails, followed by more of the same until finally, they could confirm any needed changes. All in all, I am thrilled I contacted Dan @ Compassionate. I have already recommended several others to him, and they have had the same experience I had there. Thanks again, Dan. - **Michael S.**

Work Sample One: Cover Sheet

Objectives

- Apply knowledge of historical and current laws, regulations, and policies to identify, analyze, and advocate for emerging issues related to medical cannabis and health.
- Identify areas for future research related to science, health effects, and policy of medical cannabis, and describe the challenges associated with such research.

Context

A discussion post in 610 (State and Federal Regulations) asks us to describe the unintended consequences of both rescheduling and de-scheduling cannabis at the federal level. The assignment was as follows:

The resources for this module explored a few of the issues that cannabis' Schedule I status creates, including its criminalization, barriers to scientific research, and the legal disconnect with most states that have liberalized cannabis regulations. They also covered recent efforts to change the legal status of cannabis at the federal level and the potential implications of these changes.

Description

My contribution discusses the effects scheduling or de-scheduling would have on the patient, the banking industry, advertising, and medical research.

Work Sample One

1. Describe at least two (2) probable outcomes of re-scheduling cannabis. Explain your	1.Banks will be able to do business with cannabis companies without the worry of not being insured. Currently there are banks that will do business with you, but it is quite expensive. A local bank that does business in the cannabis industry quoted me \$1000.00	
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reasoning.	<p>to open an account and \$500.00 per month to maintain the account.</p> <p>2.Google will allow cannabis companies to do a pay-per-click advertising campaign. Currently a cannabis business must come up to the top of searches organically.</p>	
2. Describe at least one (1) unintended consequence of re-scheduling cannabis. Explain your reasoning.	<p>Drug manufacturers have the resources and experience to manufacture cannabis medicine in a manner that more people will trust. For example, Epidiolex. Once we can have plant derived medication for anxiety and chronic pain (which are 80% of my patients) these dispensaries could lose out to the Walgreens of the world.</p>	
3. Describe at least two (2) probable outcomes of de-scheduling cannabis. Explain your reasoning.	<p>1.We already know that moving from medical to recreational increases ER visits by 30%. I can only imagine the strain on our health care system if the entire country had an increase of 30%.</p> <p>2.There will no longer be dispensary representatives discussing the medical benefits of cannabis. This would deter senior patients from using cannabis as a medicine.</p>	
4. Describe at least one (1) unintended consequence of de-scheduling cannabis. Explain your reasoning.	<p>The private prison industry would take a huge hit on Wallstreet. The less cannabis convictions we have will equate to less people in jail which will result in less money to those that invest in these companies.</p>	
<p>5. In your opinion, is it appropriate to change the federal legal status of cannabis? If not, explain your reasoning.</p> <p>If you believe a change is called for, what should it look like (de-scheduling? rescheduling? clemency?) and where might it best originate: in Congress; at an agency such as FDA,</p>	<p>I believe cannabis should be rescheduled to a schedule IV drug. If it were to be de-scheduled all together it would like alcohol. I have heard so many people say that cannabis should be treated like alcohol, but I disagree. With alcohol many of us got sick and vomited before we learned how much was enough. Too much cannabis for a THC naïve person could land them in the hospital with an anxiety attack. In addition, alcohol is not something you have to protect from your toddler at home. I have never heard of a toddler being taken to the ER because they got into the vodka at the house.</p> <p>I do not have a problem with recreational cannabis being approved at the state level, but federally I'd prefer cannabis to be considered a medicine. Yes, I am all for clemency, but not at the risk of continuing the stigma. If cannabis were completely legal nationally,</p>	

<p>DEA or DOJ; via the Courts; or from the White House?</p> <p>State and defend your position in approximately 250 words.</p> <p>Note: This is not meant as an exercise about what is constitutionally or legally possible (that is beyond our scope here). Focus on your priorities for legalization (i.e., decriminalization, access, stigma, clinical trials, education) and how various approaches (waiting; addressing legislatively, judicially or executively) might best achieve them.</p>	<p>we are going to lose the opportunity to treat patients the way they are used to being treated. If cannabis were to become a schedule IV drug it would allow more scientific research. Once cannabis has been advanced like current FDA approved medications the big pharmaceutical companies will change the medical cannabis industry as we know it. Seniors will be more comfortable taking their plant derived pill like any other in the pill box. Once this happens, I believe we will store our plant-based medications in a safe area like we currently do our medication from Walgreens. Also, as a schedule IV drug insurance companies can cover cannabis medication. I believe congress should act now so that cannabis medicine can be utilized in the current culture of western medicine instead of the other way around.</p>	
<p>References:</p>	<p>References 610 Module 2</p> <p>Wong, K. & Baum, C. (2019). Acute Cannabis Toxicity. <i>Pediatric Emergency Care</i>, 35 (11), 799-804. doi: 10.1097/PEC.0000000000001970.</p> <p>Richards, J. R. , Smith, N. E. & Moulin, A. K. (2017). <i>The Journal of Pediatrics</i>, 190 , 142-152. doi: 10.1016/j.jpeds.2017.07.005.</p>	

Work Sample Two: Cover Sheet

Objectives

- Apply concepts of pharmacology, pharmacognosy, biopharmaceutics, and pharmacokinetics to determine appropriate cannabis dosing, dosage forms and routes of administration for optimal treatment.
- Apply concepts of analytical chemistry, pharmacology, pharmacognosy, and pharmaceutics to assure safe and effective design, development, and manufacture of medical cannabis products.
- Identify areas for future research related to science, health effects, and policy of medical cannabis, and describe the challenges associated with such research.

Context

An assignment in 603 (Cannabis Chemistry and Drug Delivery) required us to write an essay that describes the key considerations for formulating a cannabinoid-containing drug product for inhalation. Include the relevant biology, extraction method, delivery mechanism, and other relevant formulation parameters.

Description

The work sample describes a medical cannabis formulation intended for people with diabetes. I describe the manufacturing process, the route of consumption, and the potential therapeutic properties.

Work Sample Two

I am formulating a cannabinoid drug product for use in a nebulizer. I have chosen to create a drug that will help people with type 2 diabetes lose weight in the hopes of getting them off insulin. The strain that I intend to use is known as Candyland. I've chosen this strain because it's high in Humulene and Caryophyllene.

Humulene is known to suppress appetite. Caryophyllene has been known to help with anxiety. Since many people tend to eat when stressed, I thought this may help reduce weight.

The advantages of using a nebulizer include the formulation of a smaller quantity of toxic by-products such as carbon monoxide, polycyclic aromatic hydrocarbons, and tar. THC obtained by the vaporization of cannabis is comparable to those obtained by smoking cannabis. It does not go through first-pass metabolism. In addition, the onset is nearly immediate, within five or ten minutes. The immediate onset also makes it easy to self-titrate using the nebulizer. When inhaled, the nebulizer vapor goes down to the alveoli at the bottom of the lungs. It will then enter the bloodstream. Carbon dioxide leaves the body when exhaling. The particle size that enters the lungs is about 5 microns.

The extraction method I will use is the CO₂ extraction method. The equipment needed for this method is very expensive, but it eliminates the use of solvents. Since inhaling solvents has not been around long enough to know what the long-term effects will or might be, I'd prefer to stay away from them. In addition, this process is non-flammable, making for a safer environment.

After extraction, I am going to refine the product first by winterizing it. We are going to use alcohol to do this. When we winterize the product, we can remove unwanted materials such as fats, waxes, and chlorophyll. I will also refine the product even further by using a method known as short path distillation. This process will increase the potency of the product and, as a result, make it more bioavailable. To solubilize the product, I'm going to use ethanol. It's used in the pharmaceutical product Sativex, so I trust it has been proven to be safe.

The nebulizer does not use heat like most cannabis inhalants. As a result, it is not combustible. There is a jet in the nebulizer that pushes compressed air through a tube filled with oil. This turns the cannabis solution into microparticles or an aerosol. The patient inhales the aerosol when exhaling, there is no odor or smoke as with other inhaled products.

The most intriguing thing about cannabis inhalation to me is the increase in forced vital capacity. FVC is measured by the strength of exhaling. A study was done on cigarette smoking versus cannabis smoking to measure over many years what the effect of the two products had on the FVC. Logically, one may think that

cannabis inhalation would be the same as cigarette smoking or at least remain the same. That is not the case. For people who inhaled cannabis for years, their FVC increased. Does this mean that inhaling cannabis is healthy for the lungs? I sure hope so.

References

Ket Wah Kan, C. (2017, October 5). *US20170281701A1 - formulation for the nebulization of oil based substances suitable for use with a vibrating mesh nebulizer*. Google Patents.

<https://patents.google.com/patent/US20170281701A1/en>

Nivorozhkin, A. (2019, August 23). *Solubilization of phytocannabinoids using cyclodextrins*.

Cannabis Science Tech. <https://www.cannabissciencetech.com/view/solubilization-phytocannabinoids-using-cyclodextrins>

Work Sample Three: Cover Sheet

Objectives

- Apply knowledge of pharmacology, pathophysiology, clinical assessment, and traditional management strategies of pain and other physical symptoms to identify appropriate candidates for medical cannabis therapy.
- Develop monitoring plans to determine effectiveness of medical cannabis therapy and to detect adverse effects of medical cannabis use.

Context

A discussion in in MCST 604 (Clinical Effects of Medical Cannabis) comes from a nurse who works with cancer patients and wants to know more about treating patients with CINV. The prompt was the following.

KJ is a 55-year-old African American woman diagnosed with Stage II ovarian cancer 4 months ago and received 3 cycles of chemotherapy to date. She tolerated her chemotherapy regimen well with her first and second cycle but despite receiving appropriate anti-nausea medications, she experienced uncontrolled nausea and vomiting following her third treatment cycle. She will be coming back to the clinic in 3 weeks for her next course of chemotherapy, and she is fearful that she will again experience severe nausea and vomiting both in the chemotherapy infusion center and at home.

Description

I gave the nurse information to share with her patients based on age and gender. I explained dosing and ways to get started with medical cannabis to help eliminate nausea due to chemotherapy.

Work Sample Three

After our phone call, I researched chemotherapy-induced nausea and vomiting (CINV). As a disclaimer, I want you to know that I have interviewed many patients that have overcome CINV utilizing different cannabis products and routes of ingestion, but that is subjective information. The information I am sharing with you is objective and, therefore, considered to be evidence-based medicine. I am basing my information on two different articles. One article is a meta-analysis, a more credible source of multiple studies. The second article is about a randomized, placebo-controlled, phase II crossover trial, which I will discuss in more detail.

The meta-analysis concluded that medical cannabis taken orally was more efficacious than placebos or other traditional antiemetics. The randomized, placebo-controlled, phase II crossover trial utilized a 1:1 ratio of THC and CBD in a capsule. Each capsule had 2.5 mg of both THC and CBD. Patients self-titrated three capsules a day and a fourth if needed. 83% of patients preferred cannabis to placebos. 31% of patients did report moderate or severe side effects, which included sedation, dizziness, or disorientation. This is something to be careful of.

I found this to be a good study for your patient since the median age of the study was 55, and 78% of the patients were female. CBD has been found to lessen the psychoactive effects of THC. Capsules do come in other ratios, for example, 25% THC and 75% CBD, if the side effects exist. They also ratio with more THC if the patient prefers more THC. Good luck, and do not hesitate to reach out again if you need more information.

References

Grimison, P., Mersiades, A., Kirby, A., Lintzeris, N., Morton, R., Haber, P., Olver, I., Walsh, A., McGregor, I., Cheung, Y., Tognela, A., Hahn, C., Briscoe, K., Aghmesheh, M., Fox, P., Abdi, E., Clarke, S., Della-Fiorentina, S., Shannon, J., ... Stockler, M. (2020). Oral THC:CBD cannabis extract for refractory

chemotherapy-induced nausea and vomiting: a randomized, placebo-controlled, phase II crossover trial. *Annals of Oncology*, 31(11), 1553–1560. <https://doi-org.proxy-hs.researchport.umd.edu/10.1016/j.annonc.2020.07.020>

Chow, R., Valdez, C., Chow, N., Zhang, D., Im, J., Sodhi, E., & Lock, M. (2020). Oral cannabinoid for the prophylaxis of chemotherapy-induced nausea and vomiting-a systematic review and meta-analysis. *Supportive Care in Cancer*, 28(5), 2095– 2103. <https://doi-org.proxy-hs.researchport.umd.edu/10.1007/s00520-019-05280-4>

Work Sample Four: Cover Sheet

Objectives

- Participate in health policy decision-making processes by evaluating primary literature to assist policy makers and prescribers about making well informed decisions about medical cannabis therapy.
- Apply knowledge of historical and current laws, regulations, and policies to identify, analyze, and advocate for emerging issues related to medical cannabis and health.
- Identify areas for future research related to science, health effects, and policy of medical cannabis, and describe the challenges associated with such research.

Context

An assignment is MCST616 (Medical Cannabis Advocacy for Patients and Public Health) we were asked to choose a topic related to medical cannabis that I would want to change, fix, or improve. We were to utilize an effective action model template to complete the assignment.

Description

The work sample is a plan to keep recreational cannabis from prohibiting medical cannabis from being pushed to the side. I go into detail describing where the cannabis industry in Florida is currently, and where it is headed.

Work Sample Four

1. Context

The dispensaries in Florida have essentially moved away from trying to educate physicians about medical cannabis and have gone into full recreational mode. Most dispensaries have done away with the doctor representatives who were paid to educate physicians on their products and their plans for new products. The handful of representatives they do have in the market are participating in illegal dab days and other cannabis events. What is at stake is that it is tough for patients to find consistency in their medicine already. If it does go recreational, I am afraid we will not have the opportunity for patients to learn the science behind their medicine.

2. Beliefs & Values

Over the last six years, I have heard so many stories from patients sharing their cannabis journey and how cannabis has saved their lives by either allowing them to get a good night's sleep or to no longer be addicted to opioids. I have even had a 30-year functioning alcoholic stop drinking with the help of cannabis. No one must convince me to believe in cannabis I want others to have the same understanding. The value of not going recreational in Florida is the tourism dollars we will lose with the constant stench in the air at public events.

3. Goals

My goal is to stop recreational from going on the ballot in 2024. Currently, 70% of Floridians are for recreational cannabis. We only need 60% of a yes vote for it to become law. Once we succeed in stopping recreational, we can work on legislation that will force the dispensaries to teach patients science instead of marketing material dressed up like science. Victory will be all 22 license holders in my state employing one of my classmates or alumni to oversee the cannabis products and make sure they fit the needs of patients in our state.

4. Conditions and Determiners

I want patients to have more access to consistent products. Currently, if you ask a dispensary representative for information on a particular strain because you want more myrcene they may be able to produce the terpene information. However, it will likely be from a batch 4 years ago. Since the terpenes can change from batch to batch it makes it very difficult to know precisely what is working for a patient. The determiners are local and state legislators and potentially the voters if recreational makes it on the ballot. The money will come from industries that will be hurt by legalization, and the dispensaries will be susceptible to our actions.

5. Strategies

The first thing I will do is get buy-in from local and state politicians. We just elected a new Mayor. Last week, I spoke with David Miller, who is on the mayor's transition team, and his ears perked up when I mentioned the thought of having to pay state income tax when we start losing revenue from tourism. Last Friday, I had Melissa Ross in my office, who left our local NPR radio show to join the mayor's staff as the Director of Strategic Initiatives and liaison to the press. I got the same wow I had no idea response. Today, I met with State Representative Kimberly Daniels. In addition to the loss of tourism, I educated her on how people of color have been left out. She wants me to come to speak to the black caucus group in Tallahassee.

6. Tactics

Dr. Sunil Joshi has joined the mayor's staff as the chief Health Officer. He does not know it yet, but I plan to volunteer to be his medical cannabis liaison. If I can pull this off, I will be involved in many meetings that will allow me the opportunity to promote my campaign, Don't Rec the state in which I already own the web address.

7. Vehicles

I hope to use ASA to help fill the website with the proper information. I will carry out the operation with the help of all city and state politicians I can bring on board. Safeaccessflorida.org (Trulieve Corp and The Bellamy Brothers) is the organization that has raised 40 million dollars to get recreation on the ballot. Their name alone, in my opinion, is stealing credibility from Americansforsafeaccess.org. I hope to start an ASA chapter in Florida and do all the heavy lifting with the folks doing this for 21 years. We will get continued feedback from legislators who are working with us.

8. Objectives

My primary objectives are to educate the public with good material on the website. I plan to use good old-fashioned scare tactics. I have quickly learned that Floridians do not want a state income tax. I told a patient/friend last week who was headed to a vast real estate conference about my plan. She said, "OMG, I'm going to tell everyone, and please let me know when that website is up." I may use the Marihowanna phrase in the Fraternal Order of Police speech.

9. Steps or Tasks

Build the website and educate the public as quickly as possible. If I can work with a non-profit, we should be able to get some free public service announcements. Finally, my PR degree pays off. Politicians need money, and so does a PR campaign. I will assemble a list of industries that recreation will affect and ask them to contribute.

References

- Holthaus, H. (2023, June 14). *Mayor-elect Donna Deegan taps big names to Executive Administration Team*. The Florida Times-Union.
<https://www.jacksonville.com/story/news/politics/government/2023/06/14/democrat-mayor-elect-donna-deegan-announces-new-mayoral-administration-leadership-team-jacksonville/70320749007/>
- Daniels, K. (n.d.). Legislator Information. Legislator information.
<https://services.statescape.com/LegislatorInfo/Legislator.aspx?id=14254>

Work Sample Five: Cover Sheet

Objectives

- Apply concepts of analytical chemistry, pharmacology, pharmacognosy, and pharmaceuticals to assure safe and effective design, development, and manufacture of medical cannabis products.

Content

An assignment in MCST603 (Cannabis Chemistry and Drug Delivery) required us to write an essay that describes the key considerations for formulating a cannabinoid-containing drug product for inhalation. In addition, we had to include the relevant biology, extraction method, delivery mechanism, and other relevant formulation parameters.

Description

The following work sample describes my formulation of a new nebulizer formulation that may help with diabetes. I utilize specific terpenes and extraction method.

Work Sample Five

I am formulating a cannabinoid drug product for use in a nebulizer. I have chosen to create a drug that will help people with type 2 diabetes lose weight in the hopes of getting them off insulin. The strain that I intend to use is known as Candyland. I have chosen this strain because it is high in Humulene and Caryophyllene. Humulene is known to suppress appetite, and caryophyllene has been known to help with anxiety. Since many people tend to eat when stressed, this may help with reducing weight.

The advantages of using a nebulizer include the formation of a smaller quantity of toxic by-products such as carbon monoxide, polycyclic aroma, hydrocarbons, and tar. THC obtained by the vaporization of cannabis is comparable to those obtained by smoking cannabis. It does not go through first-pass metabolism. In addition, the onset is nearly immediate, within five or ten minutes. The immediate onset also makes using the nebulizer easy to self-titrate. When inhaled, the nebulizer vapor goes down to the alveoli at the bottom of the lungs. It will then enter the bloodstream. Carbon dioxide leaves the body when exhaling. The particle

size that enters the lungs is about 5 microns.

The extraction method I will use is the CO₂ extraction method. The equipment needed for this method is very expensive, but it eliminates the use of solvents. Since inhaling solvents has not been around long enough to know what the long-term effects will or might be, I'd prefer to stay away from them. In addition, this process is non-flammable, making for a safer environment.

After extraction, I will first refine the product by winterizing it. We are going to use alcohol to do this. When we winterize the product, we can remove unwanted materials such as fats, waxes, and chlorophyll. I will also refine the product even further by using a method known as short-path distillation. This process will increase the potency of the product and, as a result, make it more bioavailable. To solubilize the product, I am going to use ethanol. It is used in the pharmaceutical product Sativex, which has proven safe.

The nebulizer does not use heat like most cannabis inhalants, so it is not combustible. A jet in the nebulizer pushes compressed air through a tube filled with oil, turning the cannabis solution into microparticles or an aerosol. The patient inhales the aerosol, and when exhaling, there is no odor or smoke, as there is with other inhaled products.

The most intriguing thing about cannabis inhalation to me is the increase in forced vital capacity—the strength of exhaling measures FVC. A study was done on cigarette smoking versus cannabis smoking to measure over many years what the effect of the two products had on the FVC. Logically, one may think that cannabis inhalation would be the same as cigarette smoking or at least remain the same. That is not the case. For people who inhaled cannabis for years, their FVC increased. Does this mean that inhaling cannabis is healthy for the lungs? I sure hope so.

References

Ket Wah Kan, C. (2017, October 5). US20170281701A1 - formulation for the nebulization of oil based substances suitable for use with a vibrating mesh nebulizer. Google Patents.

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Nivorozhkin, A. (2019, August 23). Solubilization of phytocannabinoids using cyclodextrins.

Cannabis Science Tech. Retrieved April 11, 2023, from

<https://www.cannabissciencetech.com/view/solubilization-phytocannabinoids-using-cyclodextrins>

Work Sample Six: Cover Sheet

Objectives

- Apply knowledge of historical and current laws, regulations, and policies to identify, analyze, and advocate for emerging issues related to medical cannabis and health.

Context

An assignment in 610 (State and Federal Regulation) required us to look up legislative bills surrounding cannabis. We were to show our ability to discuss the issues from past legislation.

Description

The work sample shows my ability to research legislation from different states. Answering the questions in the prompt illustrates my understanding of legislative research and the ability to advocate for legislation.

Work Sample Six

The bill number: Include both the House and Senate number if both are available. (0.5 points)	HB0046
The title of the bill. (0.5 points)	Humane Animal Care-Cannabis
The bill sponsors: If there are a lot of sponsors, you can just list the first sponsor's name. (0.5 points)	Representative Anthony DeLuca
A summary of how the bill will change the law (no more than 5 sentences). Make sure you read the bill and the Fiscal & Policy note if the bill has one. (2 points)	The bill amends the Humane Care for Animals Act by including cannabis abuse. The first offense will result in a Class A misdemeanor. A second offense will result in a Class 4 felony.
Last Action (i.e., what happened to the bill: did it pass, did the governor veto	. Session Sine Die

the bill, did it die in committee?) (0.5 points)	
In no more than 5 sentences, explain if the bill reflects an interest or a priority for you, or if it introduced you to a new issue. (1 point)	This bill does not interest me in the least. I once saw a friend in middle school get his cat high, so it's not a new issue for me.

The bill number: Include both the House and Senate number if both are available. (0.5 points)	HB0001
The title of the bill. (0.5 points)	Constitutional Amendment-Cannabis-Adult Use and Possession
The bill sponsors: If there are a lot of sponsors, you can just list the first sponsor's name. (0.5 points)	Delegate Clippinger
A summary of how the bill will change the law (no more than 5 sentences). Make sure you read the bill and the Fiscal & Policy note if the bill has one. (2 points)	Anyone over the age of 21 will be able to possess cannabis without a fine or a conviction if used according to law. 40 million dollars will be set aside for A Cannabis Business Assistance Fund. This bill will also allow for expungement. 1.5 million dollars will be set aside to educate the Criminal Justice System. In addition, the Department of Health will have set aside 5 million dollars for the Cannabis Public Health Fund.
Last Action (i.e., what happened to the bill: did it pass, did the governor veto the bill, did it die in committee?) (0.5 points)	The bill passed both the House and the Senate to be put on the ballot for Maryland voters to vote on.
In no more than 5 sentences, explain if the bill reflects an interest or a priority for you, or if it introduced you to a new issue. (1 points)	Yes, this bill is very important to me. I live in Florida where they are trying to get recreational cannabis on the ballot this year. I want to learn how the change in Maryland affects medical cannabis patients. I plan to be a voice for patients in Florida if recreational cannabis makes it on our ballot.

The bill number: Include both the House and Senate number if both are available.	HB 0083/SB 0699
The title of the bill.	Criminal Procedure – Charge of Possession of Marijuana – Removal from Case Search
The bill sponsors: If there are a lot of sponsors, you can just list the first	in the House by Delegates Moon, et. al., and by Senators Waldstreicher, et. al., in the Senate.

sponsor's name. See example below.	
A summary of how the bill will change the law (no more than 5 sentences). Make sure you read the bill and the Fiscal & Policy note if the bill has one.	This bill would shield the criminal records of individuals with a simple marijuana possession charge. Shielding does not eliminate the criminal record but removes it from the public view. This bill would shield these records by preventing the Maryland Judiciary Case Search system from referencing the existence of a District Court criminal case in which possession of marijuana under section 5-601 of Maryland Criminal code is the only charge and the charge was disposed of before October 1, 2014. This date was chosen because Maryland decriminalized the possession of small amounts of marijuana in 2014.
Last Action (i.e., what happened to the bill: did it pass, did the governor veto the bill, did it die in committee?)	This bill passed both the House and the Senate but was vetoed by the Governor.
Provide a link to the bill.	http://mgaleg.maryland.gov/mgawebsite/Legislation/Details/hb0083?ys=2020RS
In no more than 5 sentences, explain if the bill reflects an interest or a priority for you, or if it introduced you to a new issue.	Decriminalization is imperative if we are truly intent on reversing Cannabis prohibition. Even though this is a single small action, it is one of the many steps needed to decriminalize the plant. I am going to pay specific attention to reports as to why Governor Hogan vetoed this Bill and why the General Assembly was unable to override the veto.

Work Sample Seven

Objective

- Apply knowledge of pharmacology, pathophysiology, clinical assessment, and traditional management of pain and other physical symptoms to identify appropriate candidates for medical cannabis strategy.

Context

An assignment in MCST604 (Clinical Effects of Medical Cannabis) required us to review a case assessment then form a PICO question based on a 55-year-old patient suffering from chemotherapy-induced nausea.


Description

I created a PICO question based on the patients' demographics, symptoms, and current medications.

Work Sample Seven

Current medications:


- Prochlorperazine (Compazine) – for nausea/vomiting (CINV)
- Ondansetron (Zofran) – for nausea/vomiting (CINV)
- Carboplatin - chemotherapy for ovarian cancer
- Paclitaxel – chemotherapy for ovarian cancer

 Assess the situation (EBM Step 1) Done for you!	
Demographic Information Age, race, sex	55-year-old African American woman
Symptoms What are the patient's main symptoms/problem that needs to be addressed?	Chemotherapy-induced nausea and vomiting
Characteristics Describe the symptoms. Are they the same throughout the day? Severity?	Uncontrolled nausea and vomiting; fearful that she will again experience severe nausea and vomiting.
History	<ul style="list-style-type: none"> • Prochlorperazine (Compazine)

What medication or therapies has the patient tried so far for this symptom?	• Ondansetron (Zofran)
Onset When did the symptoms start?	Following her third treatment cycle
Aggravating Factors What makes the symptoms worse?	Fear/anxiety
Remitting Factors What makes the symptoms better?	Unknown
Medications What medications is the patient CURRENTLY taking for conditions other than those listed above for the primary symptom? What problems, if any, (side effects, trouble using the medication) does the patient have with the CURRENT therapies?	Carboplatin Paclitaxel
Allergies What medications or foods is the patient allergic to?	None
Conditions What other medical conditions does the patient have besides the primary symptom?	Ovarian Cancer

? Ask (EBM Step 2)	
Directions:	
<ol style="list-style-type: none"> 1. Formulate a PICO question based on your assessment of the patient case above 2. Determine which type of question your PICO question is (diagnosis, therapy, prognosis, harm/etiology) 3. Determine which types of studies can answer your PICO question 	
Patient/Problem How would you describe a group of patients like yours? What patient demographics are relevant? What is the main problem?	<ol style="list-style-type: none"> 1. Patients that suffer from CINV 2. Age and sex 3. CINV
Intervention or exposure What is the main drug, nonpharmacological treatment, exposure/risk factor being considered?	Cannabis
Comparison What is the main alternative that is being comparing to the intervention? <i>May not have a specific comparison</i> (Ex. Placebo, standard therapy, no therapy)	No therapy
Outcome What you are attempting to accomplish, measure, improve? (ex. Reduced mortality or morbidity, relieve or	Relieve or eliminate the symptoms

eliminate the symptoms, improve function)	
Final PICO Question	
What type of question is your PICO question? <ul style="list-style-type: none"> • Therapy: <i>Is a treatment effective?</i> • Harm/etiology: <i>What caused this disease?</i> • Diagnosis: <i>How to select and evaluate diagnostic tests?</i> • Prognosis: <i>What's the patient's likely clinical course over time?</i> 	Therapy
What type(s) of study designs answer your PICO question?	Cohort and case-control studies
What type of study design could BEST answer your PICO question?	cohort

 Acquire (EBM Step 3) – READ CLOSELY AND FOLLOW ALL DIRECTIONS!!	
Directions: <ul style="list-style-type: none"> • State which database(s) you used and explain your choice • Describe your search strategy: Include your search terms, filters used, years included in search • Write the citations for two articles that you found with your search strategy 	
1. Chosen Databases (explain your choice!)	I chose Embase because it allowed me to use the PICO method
2. Search strategy (terms, filters used, years included in search)	Gender, relevance, publication dates from 2020-2023
3. Citations (at least 2, in APA format)	<p>Grimison, P., Kirby, A., Merisades, A., Lintzeris, N., Morton, R., Haber, P., Over, I., & Walsh, A. (2020, August 12). <i>Oral THC:CBD cannabis extract for refractory chemotherapy-induced nausea and vomiting: a randomised, placebo-controlled, phase II crossover trial</i>. <i>Annals Of Oncology</i>. Retrieved January 31, 2023, from https://www.annalsofoncology.org/article/S0923-7534(20)39996-8/fulltext</p> <p><i>Young Consultant Oral Session Abstracts</i>. Wiley Online Library. (2020, August 6). Retrieved January 31, 2023, from https://onlinelibrary.wiley.com/doi/10.1111/ajco.13416</p>

Work Sample Eight: Cover Sheet

Objectives

- Apply knowledge of analytical toxicology methods to identify, quantify, and interpret results related to cannabinoid use and misuse.

Context

For MCST602 (Principles of Drug Action and Cannabinoid Pharmacology) we were required to discuss a possible antidote to cannabis intoxication. We were asked the question does an antidote exist.

Description

I wrote a paper discussing many of the old home remedies that have been known to be natural antidotes. I also discuss the possibility of cannabidiol as a possible antidote for cannabis intoxication.

Work Sample Eight

Some old-fashioned remedies are commonly thrown around, but no natural cure exists. Cannabidiol is widely utilized to control the psychoactive effects of Tetrahydrocannabinol. In the clinic, we teach our THC naïve patients how to go low and slow. We encourage them to start with CBD for most patients and to introduce THC slowly. Some discoveries help Physicians to identify the condition of Cannabis Hyperemesis Syndrome, which seems to be more common since the rise in cannabis use around the world.

There are a few ancient cannabis antidotes still utilized today. Lemons as an antidote became popular in the early 19th century. Similar support for the citrus cure in the 19th century. Bayard Taylor after travels in Syria (Taylor, 1855), and Fitzhugh Ludlow after his voluntary experiments with ever higher cannabis extract doses in the USA (Ludlow, 1857). The sentiment was repeated by Calkins (1871), who noted the suggestion of a friend in Tunis that lemon retained the confidence of cure of overdoses by cannabis users in that region (Ruso). Another ancient antidote is the calamus plant root. It is believed that one pinch of calamus powder sprinkled with cannabis will neutralize the psychoactive effects. The calamus contains beta-acarine and acetylcholinesterase inhibitors. Cannabis α -pinene also has been characterized as a potent inhibitor of that

enzyme. Likewise, the pine nuts prescribed by Pliny the Elder harbor pinene and additional limonene (Salvador et al.,2007). The black pepper might offer the mental clarity afforded by pinene, sedation via myrcene, and helpful contributions by β caryophyllene. Modern scientific rationales for the claims thus support the historical suggestions for cannabis antidotes and, if proven experimentally, would provide additional evidence of synergy (Berenbaum, 1989; Wagner & Ulrich-Merzenich, 2009) (Ruso).

The mechanisms by which CBD exerts its effect are not precisely known, but the pharmacological actions of CBD follow from many different mechanisms. CBD weakly binds to CB-Rs but can antagonize the effects of THC, even when the former is present in low doses. This method I get feedback from this daily. Many of the patients needing the most education in my practice are older. I encourage them to start with CBD and give it a couple of days to get into the bloodstream. Then, I ask them to have a friend or family member around when they start slowly introducing the THC. I also encourage them (if smoking is an option) to purchase a disposable vape pen for emergency use. In the case of consuming too much during an anxiety attack, no one wants to wait for an oral product to ingest. A couple of puffs from a CBD vape most times have an instant effect of alleviating the psychoactive feeling (Niesink, van Laar, 2013).

One of the rare and hard-to-diagnose conditions is cannabis hyperemesis Syndrome (CHS). It is being seen more and more as cannabis use increases. One of our patients, whom I will describe as a Compassionate Alternative Care Patient (CACP), shared his horror story with me. In February 2020, after six days of continuous vomiting, I finally went to the ER. After five days of testing, they came up with nothing. His doctor closed the door and said, "I will deny saying this, but go home and smoke a joint. He did what he was told and even turned to suppositories with THC. Every sixty days, he would have another episode. This went on until May 2021. After eight days and 30 lbs. later, he went back to another ER. This doctor gave him haloperidol through an IV. He said you are not psychotic, so the drug will not affect you mentally, but if the nausea goes away, we know you have CHS. (CACP) stopped using cannabis and has not had an episode since. His neuropathy, anxiety, and chronic pain are now being treated with pharmaceuticals again.

We do have current antidotes, although many would qualify as home remedies from ancient methods, and CBD is being utilized to eliminate the psychoactive effects of THC in the medical cannabis industry.

However, there is still much research that needs to be done.

References

Niesink, R. J. M., & van Laar, M. W. (2013, October 16). Does cannabidiol protect against adverse psychological effects of THC? *Frontiers in psychiatry*. Retrieved November 8, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3797438/>

Russo, E. B. (2011, August). TAMING THC: Potential cannabis synergy and phytocannabinoid-terpenoid entourage effects. *British journal of pharmacology*. Retrieved November 8, 2022, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3165946/>.