Use of Cannabis Medicines in Clinical Practice

David Hadorn, M.D.
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Introduction

that is currently going unrelieved. I have seen many patients with chronic pain, muscle spasms, nausea, anorexia, and other unpleasant symptoms obtain significant - often remarkable - relief from CM, well beyond what had been provided by traditional (usually opiate-based) pain relievers. Also, clinically effective doses of CM are extremely well tolerated, and need not produce a "high" - although this much-maligned "side effect" can sometimes contribute substantially to the desired therapeutic effect.

As a physician, I am concerned that a very large number of patients with chronic pain are receiving inadequate treatment, in part because physician's therapeutic options have largely been limited to opiate-based analgesics and a handful of ancillary drugs, such as anti-epileptics and anti-depressants. Scientists have known for many years that cannabinoids (the major active ingredients in CMs) are potent pain relievers, and that they act synergistically with opiates to increase the degree of pain relief. The addition of CM to therapeutic regimens can reduce the need for opiates by 50 percent or more in many patients (while also reducing side effects such as constipation that opiates commonly produce). Similarly, experience has shown that that CM can augment the effects of (and sometimes even replace) such potent psychopharmacologic agents as Ativan, Xanax, Prozac, or Paxil.

From a clinical and evidence-based perspective, a trial of CM would appear to be indicated (as part of multi-modality management) in most, if not all patients with chronic, unrelieved pain. Indeed, the major role played by cannabinoid receptors in pain perception and the evident effectiveness of stimulating these receptors in terms of relieving pain, will almost certainly propel CM to first-line treatment for chronic pain within the next few years.

Physicians must improve their standard of treatment of patients with chronic pain, and I am sure they wish to do so. Because CM clearly provide significant therapeutic benefits for patients with chronic pain, with a high level of safety, I urge my fellow physicians who manage such patients to consider incorporating CM into their own practices.[3] I hope the information contained in this guideline will be helpful in this regard.

Part One: Effectiveness and Safety

Effectiveness

Cannabis has remained lodged in Schedule I of the U.S. federal Controlled Substances Act since passage of this law under Richard Nixon in 1970, in effect proclaiming that Congress deems cannabis to be without significant medical value.

However, history and science say otherwise. Cannabis has been used as a broad spectrum pain reliever and medicine for thousands of years by hundreds of cultures. Moreover, dozens of studies conducted over the past 30-odd years support the use of CM for the treatment of pain, nausea, spasticity, and other symptoms. These studies include four recent randomized double-blind trials of non-smoked, whole-cannabis extracts performed in the UK in patients with multiple sclerosis or neuropathic pain. These extracts produced significant reductions in pain, spasticity, and bladder spasms, as well as improved sleep.[4]

As such, the research dossier on cannabis is actually more robust than those available for many other long-used drugs, including aspirin, acetaminophen, digitalis, codeine, morphine, penicillin, thyroxine, and vitamin B12. None of these drugs has been tested using contemporary double-blind standards, yet each was "grandfathered" onto the FDA's list of approved drugs based on long experience with its use. Cannabis was kept off this list entirely by virtue of political maneuvering.

The extensive research literature on therapeutic cannabis has been reviewed over the past several years by at least a half-dozen governmental and academic bodies, including the U.S. National Academy of Sciences-Institute of Medicine, UK House of Lords, and Canadian Senate Committee on Illegal Drugs. In each case, the resulting reports have confirmed the therapeutic value of CM.[5]

A cellular-level explanation for many of the effects of CM was provided by the discovery of the cannabinoid receptor system that is present throughout the brain and body. This system is analogous to the opiate receptor system, which mediates the therapeutic actions of opium and its various derivatives (e.g., codeine, morphine), but the cannabinoid system appears to be even more intricately linked to the other receptor and neurotransmitter systems in the brain.

- Nausea and vomiting, especially when due to chemotherapy for cancer or HIV-AIDS
- Anorexia, especially in the setting of HIV-AIDS
- Chronic pain, especially when due to damaged nerves (e.g., spinal cord injury)
- Muscle spasms and spasticity (e.g., multiple sclerosis, post-stroke syndrome)
- Glaucoma
- Migraine headaches

In addition, many patients with insomnia and mood disorders (e.g., depression, anxiety, bi-polar disorder, and stress reactions, including post-traumatic stress disorder) have obtained significant benefit from CM. Patients often refer to a "calming" or "relaxing" effect, as well as a "distancing" or "buffering" effect, which ameliorates the negative impact of pain or other symptoms on patient's quality of life, apart from any actual analgesic action.

Many patients with persistent combinations of pain, nausea, anorexia, anxiety, or depression can benefit from the judicious use of CM, especially in the context of serious chronic conditions, such as advanced cancer. Given the state of the evidence and a decent respect for human compassion, no patient should die in pain from cancer or any other serious illness without a trial of CM (in combination with other agents and modalities, as appropriate).

Moreover, any patient experiencing unrelieved suffering due to a chronic medical, psychological, or surgical condition could be considered a potential candidate for a trial of CM.[6] Physicians who routinely prescribe Vicodin, Tylox, Prozac, Paxil, Wellbutrin, Ativan, Valium, Ambien, and similar drugs for such patients might reasonably recommend a trial of CM instead. The absence of any serious tissue toxicity, physiological disruption, or overdose potential makes CM an attractive alternative in many such clinical settings.

Safety

When used as directed, CM are remarkably devoid of serious side-effects. Indeed, even when used in excessive quantities, CM do not cause liver or kidney damage, gastrointestinal erosion, or any other serious tissue damage. Most significantly, overdose deaths are unknown and probably impossible. Serious allergic reactions are likewise unknown. By contrast, over-the-counter pain relievers (e.g., aspirin, acetaminophen) directly cause the deaths of thousands of people annually from allergic reactions, gastrointestinal bleeding, kidney failure, liver failure, and other problems.

Contrary to what many believe, cannabis does not produce physical addiction, as do many prescription drugs (e.g., narcotics, benzodiazapines). A form of "psychological dependence" on cannabis has been described, which for the most part consists of irritability and difficulty sleeping for a few days. Concerns about serious long-term problems, such as heart disease, cancer, brain damage, or infertility, have proven to be almost entirely without foundation.[7]

As noted in a recent textbook on cannabis therapeutics, the major active ingredient in CM (delta-9-tetrahydrocannabinol), in the form of "a prescription drug (dronabinol) "has been used in combination with a multitude of medications without significant deleterious interactions."[8] A few interactions might be expected based on alterations in metabolism and due to additive effects:

> *Of greatest clinical relevance is reinforcement of the sedating effect of other psychotropic substances (alcohol, benzodiazepines,) and the interaction with substances that act on the heart [due to the CM side effect of increased heart rate and decreased blood pressure] (amphetamines, adrenaline, atropine, beta-blockers, diuretics, tricyclic antidepressants, etc.) The metabolism of theophylline may be accelerated, while the clearance of antipyrine and barbiturates may be delayed.*[9]

These theoretical considerations aside, I am unaware of any case reports (published or unpublished) documenting a significant detrimental drug-drug interaction with CM, other than with alcohol. (The combined use of CM and alcohol can produce nausea, vomiting, lethargy, and loss of coordination, but much of this is due to alcohol.)

The impressive safety profile of CM constitutes a significant source of comfort to physicians who recommend or approve CM for their patients. A range of mostly minor side effects can be experienced with CMs, however, especially by first-time or inexperienced users.[10] A description of the most common side effects follows.

Pulmonary Irritation and Bronchitis

cancer have been tied to cannabis use, in marked contrast to tobacco.

Postural Hypotension

On occasion, dizziness or even fainting can occur after taking CM as a result of reductions in blood pressure caused by dilatation of blood vessels throughout the body. (This effect also explains the reddened eyes, due to blood vessel dilatation on the surface of the eye, that often results from cannabis use.) Although patients with hypertension might benefit from reductions in blood pressure - and indeed the clinical and public-health significance of this anti-hypertensive effect has probably been underrated -- cannabis-induced reductions in blood pressure can cause dizziness and even fainting if patients stand up too quickly from a sitting or (especially) lying position. For this reason, patients should be cautioned to stand up slowly from a sitting or lying position after using CM and to sit down quickly if they experience dizziness.

Patients who are already taking blood pressure medicines may need to reduce the dosage of these medicines, but there is little experience to guide physicians here. Regular monitoring is called for in patients taking anti-hypertensives who are newly starting cannabis medicines.

Rapid Heartbeat

CM often increase heart rate, especially in less experienced users. Increases of 20 or 30 beats per minute over baseline can be experienced - about the same as with rapid walking or climbing stairs. For patients with borderline ischemic heart disease (e.g., angina pectoris or recent myocardial infarction), caution is therefore required. In some cases, the simultaneous administration of a beta blocker could mitigate tachycardia, but again clinical experience here is limited. One small study observed a correlation between recent cannabis use and risk of myocardial infarction, but the observed increase was of small and of uncertain significance.

Feelings of Uneasiness

Cannabis generally produces feelings of relaxation and euphoria. However, on occasion patients may experience feelings of uneasiness of varying degrees. These feelings can take the form of nervousness, anxiety, or even panic reactions. Occasionally, feelings of paranoia can be experienced, especially if people are concerned about the legal status of cannabis. Although these reactions usually occur in naive patients, they can also happen to experienced users after consuming unusually potent varieties or excessive amounts of CM. Edible forms of cannabis can produce far more intense experiences than smoking or vaporizing (see Appendix E) and are especially liable to produce dysphoric feelings if taken in excessive quantities. This side effect can be largely avoided if oral dosing is approached carefully, as discussed in Part II.

Patients should be advised that if they experience nervousness or other negative emotion they should remember that this effect is not unexpected and that it will pass after a short time. Patients should be encouraged to accept and to "allow" whatever feelings are being experienced to run their course, rather than trying to resist or block them. Eating a light snack or having a hot or cold (non-alcoholic) drink can be calming, as well as activities like listening to music, going for a walk, stroking a pet, or being held by a loved one. Subsequent dosage should be adjusted downward in such cases.

Drowsiness or Insomnia

Depending on the specific strain of cannabis consumed, time of day, route of administration, other drugs consumed (including alcohol), and a variety of other factors, cannabis can produce either drowsiness or difficulty sleeping in some people. Many patients take advantage of the (more common) drowsiness effect to aid sleep, but for other drowsiness is unwelcome. Cannabis can result in difficulty sleeping, sometimes due to racing thoughts. Patients should be advised to reduce the dosage in such cases. Changing to a different strain of cannabis, if possible, is also advisable, as there appears to be substantial variation in sleep-related effects across strains (e.g., indica vs. sativa). However, an even greater degree of variation appears to exists in responses across patients to any given strain, which has so far precluded the discovery of any general rule about which strain causes what effect.[11]

Patients should be cautioned not to drive or operate heavy machinery if they are experiencing drowsiness or other forms of impairment as a result of CM (or other medicines).

Short-Term Memory Loss

doses should be used.

Increased Appetite

One of the most commonly experienced effects of cannabis is enhanced appetite, commonly referred to as "the munchies". (This is the #1 side effect reported by my patients.) As with drowsiness, increased appetite is often a sought-after effect (e.g., in patients with anorexia due to chemotherapy), but this effect can be problematic for other patients. In particular, overweight patients may find it more difficult to lose weight, which could produce or exacerbate obesity-related conditions, such as diabetes. This concern is largely hypothetical at this point, but is probably worth consideration in certain patients.

Dry Mouth

Another commonly experienced effect of cannabis is dry mouth and resulting thirst, which while most noticeable when CM is smoked also can occur with vaporizing and even after ingesting edible or drinkable forms. Patients should be advised to drink plenty of water or fruit juices throughout the dosing period to offset these effects. Alcohol and caffeine-containing beverages should be avoided. Sugar-free candies are also useful for keeping the mouth moist.

Euphoria

The euphoric effects (the "high") associated with cannabis provoke consternation in certain quarters, but these can definitely contribute to the therapeutic effects produced by CM. On the other hand, euphoric effects can usually be avoided, if desired, by restricting the dose to the minimum needed to obtain the desired clinical effect, e.g., relief of pain, spasticity, or nausea. In general, the clinical effect is experienced at lower doses than the "high".

There is nothing qualitatively different about this situation than that seen with prescribed psychoactive drugs in other settings. Even patients with Parkinson's disease, for example, often "get high" on L-DOPA, the precursor to dopamine, a neurotransmitter associated with pleasure. This fact does not (and should not) discourage physicians from prescribing L-DOPA to appropriate patients. A related consideration is that many patients stop experiencing euphoric effects after using CM on a regular basis for several weeks or months. Many patients feel that the euphoria is not necessary to the therapeutic effect.[12]

When placed in perspective, the potential for serious side effects from CM is substantially less than with most prescription or over-the-counter drugs. However, an understanding of the potential for adverse reactions can contribute to an even safer experience for patients using CM

Contraindications

There are no absolute contraindications to CM. Patients with poorly controlled thought disorders, such as schizophrenia, are probably best advised to avoid cannabis. On the other hand, some patients with schizophrenia find that cannabis relaxes them, sometimes "softening" the adverse side effects of potent anti-psychotic drugs. Patients with a past history of adverse reaction to cannabis, as well as those who are excessively concerned about its legal status, are also probably best advised to steer clear.

History of Substance Abuse

The term "substance abuse" is not a clinical term, but rather a judgmental one used to denote disapproval. If patients feel that their drug use has become difficult to control and is causing problems for them (e.g., speaking or acting in detrimental ways, jeopardizing relationships), this would be considered problematic drug use. But the term "abuse" should be abandoned in this context, I believe.

The above semantic concern aside, could CM ever be detrimental to the physical or psychological well-being of patients who have a past or current history of problematic drug use - whether of alcohol, prescription, over-the-counter, or illicit drugs? The answer to this question depends in large part on views about the nature of addiction and chronic pain (both physical and psychological). Some believe that much chronic pain represents withdrawal symptoms from analgesics that they have become addicted to (i.e., pain, anxiety, etc. appear when the drug wears off). This seems implausible in most cases, although it is possible that it does apply to some patients. Where this is likely to be a problem, physicians should exercise caution in approving CM. However, given the physiologically benign nature of CM, the worst outcome is likely to be the perpetuation of chronic use, which the patient will likely abandon at some point on his or her own.

problems.[13] This "reverse gateway effect" has potentially major therapeutic implications for the treatment of problematic alcohol and drug use.

Use in Pregnancy

Cannabis has been used safely by pregnant women in many cultures around the world for thousands of years, and the contemporary research community has found very little evidence linking cannabis to birth defects or other serious problems. There is some evidence that babies born of cannabis-consuming mothers have a slightly lower average birth weight, but there is no apparent clinical significance to this finding. Also, cannabis is useful for morning sickness, especially if this progresses to the life-threatening form known as hyperemesis gravidarum.

Nevertheless, it is prudent to recommend that intake of any pharmacologically active substance - including CM - be limited to the extent possible during pregnancy.

Use in Children

Available evidence from cultures in which children are provided with cannabis for therapeutic purposes (e.g., Jamaica) has failed to detect any specific adverse effects from such use. Moreover, there is powerful anecdotal evidence that some children with hyperactivity or aggressiveness can benefit substantially from CM (in non-smoked forms). When used in small doses as directed, cannabis is a much milder drug than Ritalin or many of the other powerful psychotropic agents commonly prescribed for such children these days. Also, one study found that a cannabinoid (delta-8-tetrahydrocannabinol) was safe and effective for treatment of nausea and anorexia due to cancer chemotherapy in children. Again, however, absent any specific compelling medical reason, it is clearly best that CM use in children be restricted to study settings.

Use in the Elderly

Old age is by no means a contraindication to cannabis use, especially in non-smoked forms (e.g., a few drops of tincture in tea). Indeed, cannabis has been a boon to many elderly patients with cancer and other sources of chronic pain (including arthritis), as well as spasticity, poor appetite, disrupted sleep, depression, and anxiety. Cannabis is particularly effective at treating combinations of these symptoms - common in older people. As noted above, caution must be exercised in patients for whom reduced blood pressure or increased heart rate could be risky. Patients should be cautioned to refrain from standing up quickly from a recumbent position.

Part Two: My Practice

My approach to the evaluation of patients who may benefit from CM is based on evidence, patient preferences, education, and harm reduction. The evidence component was discussed in Part 1. In Part 2 I discuss the remaining components.

Patient Preferences

Patient preferences are (or should be) the driving force behind the clinical decision-making process. Patient autonomy is a well-established tenet in the ethical tradition of modern medicine. Physicians may override patient autonomy only very carefully and only when doing so is "for the patient's own good", e.g., if the patient desires a surgical operation that the physician deems too risky. (Even here, concerns about paternalism might be raised.) In general, physicians give advice and patients then decide what to do.

State laws legalizing the use of cannabis medicines (such as California's Proposition 215) have generated an apparent exception to the general principal of patient autonomy, at least in the case of patients who are already self-medicating with CM. When evaluating patients under the auspices of such statutes, physicians serve in large part as gatekeepers, deciding to extend (or not) the protections afforded by State laws to patients who are already using CM.[14] Such patients come to the doctor with one major goal in mind: to obtain formal approval of their preferred self-medicating practices, which in nearly all instances will continue even if a physician's approval is not obtained. As such, the physician's role in this context however, is in large part to reduce the harm that would result were patients to run afoul of the legal-prison system as a result of their self-medication.

Despite the somewhat atypical nature of the physician-patient relationship in this context, physicians

The majority of my patients come from the large population of chronic pain patients, as part of their often never-ending search for relief. Almost all of these patients have tried conventional analgesics, including hydrocodone- and codeine-containing products and such powerful psychotropics as SSRIs. Virtually all my patients have discovered that CM provide better relief than these pharmaceutical products, with fewer side effects. [15] As such, their preferences for CM should be respected unless there is good reason to do otherwise.

Consent and Information Form

The first step in the process is for the patient to complete a few forms. These are designed to set the framework for the physician-patient encounter and to elicit most of the information needed to evaluate the patient's condition. Appendix C is the consent form patients must sign before I see them. Appendix D is the intake form I ask patients to fill out, including several questions concerning the history of the present illness, previous treatments tried, etc.

Following these important preliminaries, the basic elements of the clinical encounter are.

- Establish diagnosis with reasonable probability. In particular, ensure that the patient's condition is stable and chronic, not acute or progressive (or, if needed, determine that further work-up is required to establish this fact).
- Evaluate patient's current use of CM (if any) and encourage non-smoked forms.
- Ensure patients are seeing (or have access to) another physician or health care provider for follow-up for problems not related to use of CM.
- Encourage patients to discuss their use of (and experience with) CM with their own physicians (if different from the CM-approving physician)
- Discuss the legal situation.

I will deal with each of these issues in turn.

1. Establish Diagnosis

The first and most basic task is to establish the patient's diagnosis. The physician must ensure that sufficient information is obtained to constitute a reasonable basis for CM recommendation or approvals. In particular, it is incumbent on the physician to determine that the symptoms for which the patient is currently using CM are not indicative of an acute or progressive problem, which the use of CM could possibly mask.

As in almost all areas of clinical practice, the patient's history provides the large majority of information needed to determine whether the patient's condition is stable or progressive.[16] In most cases where CM is considered, patients have a relatively clear-cut history of a chronic, stable problem - typically chronic pain or mood disturbances of one kind or another. The vast majority of these patients have seen physicians in the past who have prescribed Vicodin, Prozac, Xanax, or any of a host of pharmaceutical agents. In nearly every case, my patients have reported that CM works better than these drugs, with fewer side effects. Often patients are able to reduce or eliminate these other medicines from their therapeutic regimens.

Questions & Answers

Q: Should patients be required to see another doctor for evaluation of their chief complaint - and to present evidence of such evaluation - prior to being provided with recommendations or approvals under #11362.5?

A: The answer to this question depends on whether a reasonably definitive diagnosis can be arrived at on the basis of history and any relevant physical findings. If so, I see no reason why patients should be required to be "pre-screened" or "pre-evaluated" by other physicians.[17]

Moreover, many patients with chronic pain and other symptoms have no health insurance and cannot afford a formal evaluation by a physician. As noted above, many others have seen a physician in the past but they do not have records showing this. In many cases, the evaluation occurred several years previously, and it is often a non-trivial matter for patients to seek additional evaluation or to obtain previous documentation. Often, patients have come to realize that "all doctors do is prescribe pills", and many patients do not like taking pills.

On the other hand, as noted above, CM-approving physicians must ensure that the patient's condition is

Q: What kinds of CM-using patients are especially at risk for missed diagnoses of progressive conditions?

A: There are no systematic data concerning this question. Any progressively worsening symptom is a danger signal, of course. For example, I have seen a few patients with a history of headaches that have become progressively severe over the preceding months or years, and who have not received an appropriate work-up (probably including a CT or MRI scan).

Patients with glaucoma need regular monitoring, and it is incumbent on the physician to advise that this be done.

Many patients fall into a "gray zone" where some physicians would believe additional work-up and/or treatment is required while others would not. One common example is patients with herniated lumbar discs for whom surgery has been recommended, or patients with symptoms compatible with herniated discs for whom no definitive test (e.g., myelogram, MRI) has been performed. As usual, patients' preferences should prevail, providing they understand and accept any risks associated with forgoing further tests and treatments.

Q: How can the CM-approving physician be sure that patients receive the follow-up they need?

A: As with patients seen in ambulatory or urgent care centers, there is no assurance that our patients will follow our advice to obtain additional medical evaluation or treatment. However, unlike physicians in these other settings, we have a tool available with which we can increase the likelihood of appropriate follow-up, namely the time limit we can set on the CM approval we write for the patient. Thus, whereas I generally write one-year approvals for patients with clear-cut chronic-stable conditions (and who have been using CM without problems for many months or years), I limit my approvals for patients requiring follow up (or additional documentation) to the time needed to obtain such follow up.

Q: If documentation of previous physician evaluation isn't required for patients' (alleged) conditions, isn't it too easy for patients simply to lie about their situation?

A: Physicians have little choice but to trust that patients are telling the truth. If there is any doubt, it is usually possible to ask certain questions to clarify the situation, and at times it will be necessary to obtain prior documentation. At times it will be possible to verify or refute patients' histories from information received on examination or through a review of records.

But it is difficult or impossible to detect patients (or pseudo-patients) who are determined to provide false information in order to obtain an approval for cannabis. If they were required to see another doctor first, there is nothing to stop them from lying to this doctor as well. People can similarly lie, if they wish, to obtain narcotics and potent psychotropic drugs from almost any other physician. At least in the case of CM there are no significant toxic side-effects to worry about.

Q: What about patients with persistent pain due to an injury long ago? Or someone with insomnia? Or persistent anxiety? Or simply a lot of stress? Isn't approving cannabis use for such patients just a license for continued use for whatever purpose, including just getting high?

A: In general, physicians should not attempt to second-guess patients - in any setting - if they report that they are experiencing significant relief of suffering or disability from a particular treatment. Patients are the sole judge of whether the suffering they experience and any limits on activities constitute a "serious" disruption of their health-related quality of life. One useful standard is whether the average physician would prescribe a narcotic or potent psychotropic agent for patients similar to the one being evaluated. Yes, some people will invent stories or falsify information just in order to get high. But it is better to permit this to happen occasionally than to refrain from providing patients with (real) chronic pain the relief available through the judicious use of CM.

2. Evaluate or Initiate CM Use and Encourage Non-Smoked Forms

My intake form asks patients about their current cannabis use, as shown in Appendix D. The amounts and forms of cannabis currently consumed are reported,[18] as well as any side effects experienced.

One of the most important functions of CM-approving physicians is to provide information to patients about (and to encourage the use of) alternative, non-smoked forms of CM. I provide patients with information about various forms of dosing, including vaporizing and edibles, and I even require them to take a quiz on these topics after reading this material. My nurse then reviews any errors in patients' responses, and I follow up on these same areas to ensure that patients understand the advantages and disadvantages of each method of administration. Appendix E contains the informational handout and

physician and patient communities it is likely that an increasing number of patients with little or no previous experience with CM will seek and obtain physician recommendations or approvals.

There is no agreed best approach to initiating cannabis use in such patients. However, based on considerations discussed in Appendix E, it seems reasonable to recommend that patients without significant prior experience be started on edible or drinkable forms of CM, thus eliminating any pulmonary side-effects. This method is also probably the most efficient possible route of administration, given the 11-hydroxy "boost" provided by the liver (see Appendix E).

One reasonable approach here is to use a tincture (alcohol-based extract) of whole cannabis. Such tinctures were the principal CM dosage forms sold by pharmaceutical companies, including Squibb and Parke Davis, prior to passage of the Marihuana Tax Act in 1937. Many recipes for making these tinctures exist, and I provide one as a handout to my patients (photocopied from a book with publisher's permission for use in that setting only).

A good non-alcohol-based alternative is known as "Mother's Milk", a soy-milk-based product developed by Valerie Corral, director of the Wo/Men's Alliance for Medical Marijuana (see Appendix F.). Mother's Milk is not nearly as potent as alcohol-based tinctures, which simply means that more needs to be taken to obtain similar effects. I will limit my further comments to the use of tinctures, while reminding readers that similar dose titrations can be accomplished with other forms of edibles, though less easily.

Tinctures vary in potency (i.e., number of drops or teaspoons needed to produce a given effect), depending on three major factors: (1) the amount and strength of cannabis used (from low-potency leaves to high-potency flowers), (2) strength of alcohol (from vodka to 195 proof grain alcohol (Everclear), and (3) method used to extract the active components of the cannabis into the alcohol. Unfortunately, no standardized preparations currently exist to facilitate finely titrated dosing. (A consistent pharmaceutical-grade extract of whole cannabis, produced by GW Pharmaceuticals, is likely to be approved in England later this year, but will not be available in the United States for at least two years.)

The potency of CM when taken orally makes it essential that patients take steps to avoid the unpleasant experience that can occur by taking too much. To be on the safe side, I recommend starting with one drop of a tincture made with high-potency cannabis flowers and grain alcohol, or the equivalent for lower potency tinctures, e.g., 2 drops of tinctures made with medium potency cannabis and lower proof alcohol. These drops should be placed in a cup of tea of glass of juice and consumed over a period of 15-20 minutes. This preparation should be taken on an empty stomach in order to facilitate rapid and consistent absorption.[19] Patients should then refrain from eating for 20-30 minutes after ingestion. Any effects will manifest within 2 or 3 hours.

Subsequent dosing should be adjusted upward until the desired dose is reached. The desired dose is one that reduces pain and other symptoms without producing undesired side effects, including, for many patients, euphoria or other psychoactive effects. Ideally, patients would not feel any effects other than a reduction in pain or other symptoms. If the initially selected dose is effective at reducing or eliminating their symptoms, without adverse side effects, this dose should be maintained and used once or (if really needed) twice per day. If adverse effects occur, the dose should be cut in half. If no effects are perceived, the dose should be increased by about 50 percent. Thus, if two drops were used initially, the patient might try three drops next time; raise three drops to five; five drops to seven or eight, seven drops to ten, etc.

The dose can be increased in this manner on a once-a-day dosing basis, although twice-daily dosing may be appropriate for patients with severe persistent symptoms. If symptoms are not too severe, it might be advisable to re-dose every other day to permit any lingering effects from the previous dose to dissipate, which will permit more accurate dose-response titrations. Dose escalation is continued until an adequate beneficial effect is experienced or unpleasant intolerable side effects occur. In this way, the chances of an unpleasant reaction are minimized while improving prospects for significant relief of pain and other symptoms.

As noted, exercises in dosage titration can be conducted using edibles, such as brownies or other baked goods, cooked using cannabis-laden butter or oil. However, in addition to the often unwanted calories associated with such products, they are not absorbed as quickly or consistently as tinctures. As a result, baked goods are more difficult to standardize in terms of consistent dosing potency. Many patients have nonetheless succeeded in doing so, and patients inclined to try should feel encouraged to do so. A large number of "cannabis cookbooks" are available for purchase, and the internet is an excellent resource for such recipes.

3. Ensure Patient Has Access to Another Source of Health Care and Arrange Follow-Up

provider, patients should be referred back to their provider for follow-up of all non-CM-related problems. As discussed below, patients should be encouraged to talk to their primary providers about their CM use. Patients who have no physician or primary provider can be referred to their nearest public health or hospital clinic for evaluation as needed.

Patients who are experienced with cannabis-medicine for chronic conditions can reasonably be given one-year approvals provided that they are able to contact the approving physician should any problems arise with use of CM. (Such problems are extremely rare.) Patients who are inexperienced with cannabis will generally require to a first follow up within a day or two after initiating treatment, often by telephone. Additional rechecks would then be conducted as needed. Such patients should have experienced assistance available to them on a call-in basis, at least, while becoming accustomed to the medicine's effects.

4. Encourage Patients to Discuss CM with Their Own Doctors

I encourage (but do not require) patients to talk to their own doctors regarding their experiences with CM, for two reasons.[20] First, it must be more therapeutic for patients to fully confide in their own doctors and to have these doctors manage all aspects of the patient's treatment regimen. It is certainly more efficient, as patients would not have to pay an additional fee to see another doctor.

Second, physicians learn from their patients. If physicians keep hearing that patients are receiving equivalent or better relief with fewer side effects from CM compared to the pharmaceutical products these doctors typically dispense or prescribe, at some point they will come to understand that CM is a legitimate, safe medicine that they should incorporate into their own practices. This "ripple effect" can lead to a substantial increase in the use of CM and consequent relief of suffering in patient communities.

5. Discuss the Legal Situation

Appendix E contains the written information that I provide to patients describing the legal situation in California. Items on this topic are included in the quiz and any misconceptions, identified from incorrect answers on the quiz, are discussed and clarified. Analogous information should be provided depending on the prevailing laws in other States (or countries).

Appendix A Top 20 principal diagnoses

	Diagnosis	Number	Percent
1	Chronic back pain	140	28.6
2	Chronic extremity pain	84	17.2
3	Chronic anxiety	33	6.8
4	Migraine headache	29	5.9
5	Depression	25	5.1
6	Arthritis	21	4.3
7	Headache (not migraine)	21	4.3
8	Chronic insomnia	20	4.1
9	Chronic neck pain	19	3.9
10	Chronic anorexia	15	3.1
11	ADHD	8	1.6
12	Asthma	7	1.4
13	Hepatitis C	6	1.2
14	Neuropathy	6	1.2
15	Cancer	4	0.8
16	Glaucoma	4	0.8
17	Seizure disorder	4	0.8
18	Crohns/colitis	3	0.6
19	Chronic pancreatitis	3	0.6

Appendix B Side effects reported (N = 416)*

	Number	Percent
None	308	74.0
Munchies	32	7.7
Drowsiness	22	5.3
Dry mouth	12	2.9
Laziness	8	1.9
Short-term memory loss	7	1.7
Coughing	4	1.0
Lack of focus/concent	3	0.7
Throat irritation	3	0.7
Mild paranoia	3	0.7
Dizziness	2	0.5
Mild headache	2	0.5
Red eyes	2	0.5
Dehydration	1	0.2
Possible upset balance	1	0.2
Self-conscious	1	0.2
Wheezing	1	0.2
Moodiness	1	0.2
Uneasiness	1	0.2
Loss of appetite	1	0.2
Cranky without	1	0.2
Total	416	100

*Many patients left this question blank. Most were probably attempting to indicate the absence of side effects. However, no response was coded as "missing", probably underestimating the proportion of patients who experienced no significant side effects.

Appendix C Consent and Information Form

I, the undersigned, hereby consent to being evaluated by Dr. Hadorn for purposes of determining the appropriateness of medicinal cannabis treatment. I affirm that I have a serious medical condition that adversely affects my quality of life in terms of suffering (whether physical or psychological) or unacceptable limits on my daily activities, such as working or family obligations. I further affirm that cannabis provides substantial relief from these symptoms. [This sentence is lined out if patients have not yet tried cannabis medicines for their condition.]

I will notify Dr. Hadorn of any adverse events that occur, such as persistent dizziness, worsening cough, or excessive drowsiness.

I will refrain from driving or engaging in any other potentially hazardous activity while impaired in any way by cannabis. I assume full responsibility for any harm resulting from driving or engaging in any such activities while taking cannabis or other medicines.

I will refrain from cultivating or acquiring more cannabis than needed for my own use.

I agree to try or to consider using a vaporizer (a device that heats cannabis enough to drive off the active ingredients in a form of "steam", but not enough to char the material and produce tars and other potential cancer causing agents).

I agree to try or to consider edible forms of cannabis, including tinctures. (Eating or drinking cannabis preparations is more efficient than inhaling because the liver converts THC into a much more powerful

any legal repercussions resulting from cannabis' illegal stature. I understand that an additional fee will be required for participation in any legal proceedings resulting from my use of CM.

I understand that Dr. Hadorn will not be serving as my primary care provider, but will be responsible only for the aspects of my care dealing with CM. For all other problems I will see another physician.

I affirm and agree to the above:

_____ Date: _____

Appendix D Intake Form

Patient Information

Name _____

Date of Birth _____

Address: _____

City Zip

Phone number(s) _____

E-mail (if applicable) _____

California Drivers License or ID care # (photocopy required) _____

Emergency contact name(s), address, and phone number(s):

_____

_____

(Circle appropriate answers)

Are you employed now? Yes / No

Full time / Part time / Unemployed / Retired / Disabled

If yes: where? _____

If no, date last worked: _____ Main occupation: _____

Military: Yes / No If yes: highest rank: _____Length of service _____

Marital status: single / married-partnered / divorced / / widowed

Living situation: alone / with spouse/partner / with friend(s) / with parents / with children

In: apartment / house / institution / homeless

Your religion or spiritual affiliation: _____

Is this your first physician approval for cannabis? Yes _____ No, it's a renewal _____

Primary physician or health provider: _____

Address/ phone number _____

When last seen _____ For what? _____

Specialist(s) involved with care: _____

Chief Complaint

What is the main problem for which you seek evaluation and treatment today (or the main reason you currently use cannabis)?

Describe what has happened since you first developed this problem, including what you have tried, e.g, medications, surgery, acupuncture, and how effective these have been:

Other Current Problems or Conditions: **Date of Onset:**

_____ _____
_____ _____
_____ _____
_____ _____

Current Medications (only those you are now taking)

Medication	Dosage	How long been taking?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Past Medical History

List significant past events, including injuries, surgeries, past diagnoses or conditions that are now resolved. Give dates where possible.

Previous Medications No Longer Taken

Medication	How long taken	When stopped	Why stopped
_____	_____	_____	_____
_____	_____	_____	_____

Have you had a problem with hyperactivity or lack of concentration? Yes / no

(if yes, describe):

Have you had a problem with alcohol or other drugs? Yes / no (if yes, describe):

How many drinks do you consume per day? None / 1-2 drinks / 3-4 drinks / > 4

Allergies: Medication(s) _____

Food/other _____

Family Medical History

Mother: Alive at / Deceased at: Age _____ Has/had cancer / heart disease / diabetes / alcohol/drug problems / other (what?)

Father : Alive at / Deceased at: Age _____ Has/had cancer / heart disease / diabetes / alcohol/drug problems / other (what?)

_____Do Not Write Below This Line (Continue on Next Page and Sign Final Page)

BP _____ Pulse _____

Other relevant findings:

Conditions/symptoms:	For how long?	How effective?
_____	_____	Very / fairly / not
_____	_____	Very / fairly / not
_____	_____	Very / fairly / not

Have you talked to your primary health provider about your use of cannabis? Yes / no

If no, why not?

If yes, what was his/her reaction?: Agreed enthusiastically / agreed reluctantly / didn't agree but not hostile / hostile Describe:

Do you have a pending cannabis case (arrested and facing trial)? Yes / No If yes, explain:

Are you subject to workplace drug testing? Yes / No If yes, explain:

What undesirable side effects have you experienced with cannabis?

Preferred method(s) of intake: Eating/tincture / Pipe / Waterpipe / Vaporizer / Joint

How often do you use cannabis: 1x week or less / 2-3 x/wk / 1x/day / 2-3x/day / >3x/day

How much cannabis do you use per **day**: < 1 gm/d / 1-2 gm/d / 3-4 gm/d / > 4gm/d

(1 gram is equivalent to one really big joint)

Have you found a particular strain or strains effective for your condition(s)/symptom(s)?

Yes / No If yes, what? _____

Have you ever discontinued your use of cannabis for a week or more?

Yes / No If yes, what happened to your symptoms? Worse / no change / better

How "high" do you get when you use cannabis medicinally: Very / somewhat / not at all

How important is the "high" to the effectiveness of cannabis for you?

Very / somewhat / not at all

Medical Record (continued)

_____	_____	_____
Patient Name	DOB	Date Seen

Assessment and Plan:

The patient reports that cannabis provides significant relief from the serious symptoms described above. Side effects from cannabis use have been mild to non-existent.

The benefit – risk profile associated with continued use of medicinal cannabis by this patient appears to be excellent, especially compared with most pharmaceutical alternatives. Accordingly, from a clinical perspective I see no reason not to approve of the patient's continued use of medicinal cannabis, as directed, including use of the minimum amount needed to relief symptoms and of non-smoked forms as much as possible.

Based on the patient's prior history of cannabis use for medical purposes I will need to see the patient in follow-up in _____ to determine if continued use of medicinal cannabis is appropriate. In the meantime, the patient has agreed to contact me if any problems or side effects should develop with respect to their use of medicinal cannabis. Any other problems will be referred to the patient's private physician.

The patient has signed the Consent and Instruction Form.

Follow-up for non-cannabis related problems with your primary provider _____

Follow-up for non-cannabis related problems at public hospital or clinic _____

Special instructions:

_____ _____

David Hadorn, M.D. **Date**

G39821

Appendix E

Information, Advice, and Instructions on Use of Cannabis Medicines

Modes of Delivery

Smoking cannabis for medical purposes is an inefficient and potentially unhealthful method for gaining the benefits offered by this healing plant. More than half of the active ingredients in cannabis are destroyed by the high temperatures reached during burning. If you feel any kind of spiritual connection to the cannabis plant, you might even consider it disrespectful to use cannabis in a wasteful and potentially harmful manner.

This is not to say it's necessarily a bad thing to smoke a little now and then, and indeed smoking is a rapid way to get the active ingredients of cannabis into your system if you are in need of quick relief (e.g., migraine). But it's probably not a good idea to use smoking as your main method of ingestion. And there are good alternatives.

Vaporization

Vaporization is a technique in which cannabis bud, leaf, or resin is heated enough to release the active ingredients in the form of a kind of steam or vapor, but not enough to burn the material. Patients then inhale this steam instead of smoke. Onset of action and strength of therapeutic effect are roughly the same between smoking and vaporizing.

Vaporizing probably doubles the amount of therapeutically active ingredients that can be extracted from any given amount of cannabis, compared with smoking. This is the efficiency advantage.

There is also a health advantage, in that vaporizers do not produce the tars, polycyclic aromatic hydrocarbons (both thought to cause cancer), carbon monoxide, and all the other toxic materials formed during the process of burning plant material. These are toxic to the lungs and can cause irritation and bronchitis.

There are many kinds of vaporizers on the market today, many with their own websites.(See the California NORML website www.canorml.org for an up-to-date list.) The most advanced and user-friendly vaporizer on the market today is called the Volcano, which traps cannabis vapors in a clear plastic bag, from which one can inhale vapor from time to time, as needed.

Edibles and Drinkables

Many books are available on cooking with cannabis, and I have one recipe for an alcohol-based extract available as a handout.. Alcohol extracts are the most concentrated form of cannabis medicines, and can be administered in the form of drops from a dropper-bottle placed into one's. tea or fruit juice; or dropped or sprayed directly into the mouth. Non-alcohol-based extracts are also available, as are nectars, gels, candies, and similar forms.

Taking cannabis medicines internally is more efficient than any other route for two reasons: First, unlike smoking, all of the medicine is available for absorption; none is destroyed by burning.

Second, and even more significant, when taken internally via the stomach and gastrointestinal system, the active ingredients in cannabis are acted on by the liver, which adds a so-called hydroxyl group to THC and the other cannabinoids. For unknown reasons, these hyroxylated versions of the cannabinoids are many times stronger and longer lasting than the original versions present.in the plant itself.

The fact that cannabis medicines are more potent when taken by mouth is both good news and bad news. The bad news is that it takes more time.to figure out what the appropriate dose is for each patient. It's not easy to make sure that you get the right dose of cannabis brownies, for example, although many patients are able to do so with a little experimentation. It's easier to get the dose right using liquid forms (like alcohol-based tinctures), which you can measure out by the drop or teaspoon.

The good news is that patients can obtain more powerful effects, including more powerful pain-relieving effects, than what are available from smoking or vaporizing, and the effects lasts a lot longer.

However, the power of this effect makes it easier to "overdose" on cannabis in terms of experiencing unpleasant symptoms, such as nausea and vomiting, hallucinations, staggering, and general bad feelings. This means that the "therapeutic ratio" is much narrower than for the inhaled forms of CM, smoking and vaporizing. It's much rarer to have major unpleasant .experiences from inhaled cannabis because one is able to titrate or adjust the dose due to rapid feedback. By contrast, when cannabis medicines are taken internally, the effects do not become apparent until one or two hours after ingestion. Moreover, the strength of the effect increases over the next several hours - unlike inhaled cannabis where the effects increase rapidly and then decline over the next two or three hours.

Once the effects from the edible/drinkable cannabis medicines "kick in" they last virtually all day or all night. This allows for a smoother, more sustained beneficial effect as compared to inhaled versions, which is particularly valuable for all-night coverage for patients who have difficulty sleeping through the night due to pain.

So, for both efficiency and health reasons I recommend to all my patients that they set a goal of taking all (or almost all) of their cannabis medicines in non-smoked forms, mostly using edibles and drinkables, "topping off' as necessary with vaporization.

I advise patients who have not used cannabis before (or not recently) to start with low doses of edibles/drinkables, dosing at most once per day, and increase the dose as needed by about 50 percent per day until desired symptom relief is achieved or undesirable effects occur. For example, one might start with 2 drops of a commonly available alcohol-based tincture, placed in juice or tea. If this isn't enough, the next day (or better, the following day) try 3 drops, then 5, then 8, and so forth, until reaching one of the above-mentioned endpoints.

The relative advantages and disadvantages of the various methods of ingestion are summarized in the following table.

	Smoking	Vaporizing	Edibles	Drinkables
Ease of use	***	**	***	***
Efficiency	*	**	***	***
Safe for lungs	*	***	***	***
Strength of effect	**	**	***	***

Rapid onset	***	***	*	**
Ability to control strength of effect	***	***	*	**

*** High

** Moderate

* Low

Legal

If I approve of your use of cannabis medicines, you will receive a copy of the final page of your medical record from today's visit to Natural Remedies Health Center. You are free to do what you like with this record. For example, you might share it with others to assist you in making medical decisions. Or, you might use it to qualify for a clinical trial, or to obtain treatment abroad (medical cannabis is legal in Holland, for example), or to assist you in efforts to change the laws governing medicinal cannabis.

This record can also provide protections from State laws prohibiting the use, possession and cultivation of cannabis, per California Health and Safety Code #11362.5 (Proposition 215). Under this law, patients with physician approvals or recommendations can use, possess, and cultivate cannabis in personal-use amounts. Growing for anyone else is not covered.

Unfortunately, federal anti-cannabis laws remain in place and do not exempt or provide for medical use, even for personal use as provided for under #11362.5. The federal Drug Enforcement Administration has been intermittently aggressive in its enforcement of these laws, and they have been known to arrest patients for growing relatively small numbers of plants (e.g., 14), even when approved or recommended by a physician. Burglary is probably the greater risk, however, for patients who grow personal-use quantities of plants. So if you're growing, keep the numbers of plants to the minimum required and don't tell anyone who does not absolutely need to know. See California NORML's website (www.canorml.org) for an up-to-date list of county-by-county guidelines on personal-use quantities and numbers of plants. Unfortunately, many counties have failed to enact such guidelines, in which case it is recommended that patients cultivate fewer than six plants.

Also, #11362.5 does not always protect against arrest by local law enforcement officials. The likelihood of this happening varies considerably from county to county. Also, # 11362.5 will not protect you if you are cultivating for others without having first obtained authorized caregiver status. Nor does this law sanction the activities of cannabis "dispensaries" or "compassion clubs".

Finally, please understand that the attached copy of your medical record is not being provided for purposes of acquiring cannabis medicine, seeds or clones. However, you are free to choose, at your sole discretion and at your own risk, to attempt to use it in this manner, under provisions of #11362.5. Remember, however, that acquiring such products remains illegal under federal law, and is in a "gray zone" with respect to State law (only use, possession, and cultivation of cannabis are covered under #11362.5, not sale or purchase).

Talking to Your Own Doctor

You have signed the consent form acknowledging that I am your doctor only insofar as the use of cannabis medicines is concerned. It is important that you have another doctor or health clinic that you can go to if you have problems of any other nature, or for further work-up of your basic problem(s). If you have a doctor, fine, if not we will attempt to identify a source of health care for you.

I recommend that at your next visit with you "regular doctor" you tell him or her about your experiences with cannabis medicines. You can ask that it be kept off the record, if you like. And even if he or she is not yet ready to recommend or approve of your use of these medicines, it's important that they hear from their patients that cannabis medicines do in fact provide substantial relief with few side effects (assuming that, like most patients who use these medicines, this has been your experience). Doctors learn from their patients more than from any other source, so please be brave and push your doctor to acknowledge the benefits of cannabis medicines. One of our goals is to re-normalize the use

approvals for cannabis medicines under Proposition 215. Although I do not require it for purposes of issuing a renewal approval, I do urge all my patients to do their part to educate the physician community in this regard.

Quiz Check all that apply. There may be more than one correct answer to each question.

1. What are the advantages of vaporizing over smoking?

_____Onset is quicker

_____Effects are longer lasting

_____Better for your lungs

_____More efficient

_____Easier to control strength of effect

_____Stronger effect possible for symptom relief

_____None of the above

2. What are the advantages of smoking over vaporization?

_____Onset is quicker

_____Effects are longer lasting

_____Better for your lungs

_____More efficient

_____Easier to control strength of effect

_____Stronger effect possible for symptom relief

_____None of the above

3. What are the advantages of vaporization over edibles/drinkable?

_____Onset is quicker

_____Effects are longer lasting

_____Better for your lungs

_____More efficient

_____Easier to control strength of effect

_____Stronger effect possible for symptom relief

_____None of the above

4. What are the advantages of edibles/drinkables over vaporization?

_____Onset is quicker

_____Effects are longer lasting

_____Better for your lungs

_____More efficient

_____Easier to control strength of effect

_____Stronger effect possible for symptom relief

_____None of the above

True of False

2. With a physician's recommendation or approval, patients may use, possess, and cultivate cannabis for personal use only under federal law.

_____True _____False

3. The number of plants it is permissible to grow under Proposition 215 varies from county to county.

_____True _____False

4. Your physician's approval means that you can grow cannabis for people other than yourself.

_____True _____False

5. Your physician's approval means that you cannot be arrested or put on trial for use, possession, or cultivation of cannabis.

_____True _____False

FOOTNOTES

1. I use the term "cannabis medicines" to incorporate the range of available dosage forms, including both smoked and non-smoked forms, e.g., baked goods, tinctures, and vaporizers.
2. See Hadorn D and Jackson L. Characteristics and experiences of a cohort of 489 patients self-medicating with cannabis for pain and other symptoms. Submitted for publication. See www.davidhadorn.com/cannabis/patientreports.htm.
3. I do not deal here with questions of legalities, except to point out that I am assuming physicians will obey applicable laws. In the US, physicians in 9 states (Hawaii, Alaska, California, Arizona, Nevada, Colorado, Maine, Washington, and Oregon) can legally recommend or approve CM for their patients. (Doctors in Canada can similarly endorse the use of CM by their patients under the federal Medical Marihuana Access Regulations). A decision by the federal Ninth Circuit Court of Appeals held that physicians may discuss the benefits and risks of CM with their patients, and this is currently the law in the Ninth District (most of the US west and most medical marijuana states). The U.S. government recently appealed this decision to the Supreme Court, which will decide later this year whether to hear the case.
4. These were performed by GW Pharmaceuticals, to which I am a consultant. See www.gwpharm.com
5. See www.davidhadorn.com/cannabis/mjcannabis.html#meduse for a summary of these reports.
6. Appendix A lists the 20 most common principal diagnoses for the patients I have seen in my practice up to this point.
7. See www.davidhadorn.com/cannabis/ for a summary of reports on these issues.
8. Grotenherman F. Practice hints. In Groternherm and Russo, eds. Cannabis and Cannabinoids: Pharmacology, Toxicology, and Therapeutic Potential. New York, Haworth Press, 2002, p. 347.
9. Ibid.
10. Appendix B lists the side effects reported by my patients.
11. This is true not only for sleep related effects but also for all other effects, beneficial or otherwise. Much more research is needed on strain-specific effects or strengths of action across the range of conditions, symptoms, and side effects. See V.L. Corral. Differential Effects of Medical Marijuana Based on Strain and Route of Administration: A Three-Year Observational Study J Cannabis Ther 2001(3/4):43-59.
12. I ask my patients about these two points on the clinic intake form (see Appendix D). Of 422 patients who have responded to these questions to date, all experienced users, 41 (9.7 percent) said they get "very high" from their CM, 366 (86.7 percent) said they get "somewhat high", and 15 (3.6 percent) said they did not get high at all. Of these same patients 114 (27.0 percent) said that the high was "very important" to the healing effect (e.g., pain relief), 215 (51 percent) said it was "somewhat important", and 93 (22.0 percent) said it was not important at all. These findings support the impression that many patients can distinguish euphoric from therapeutic effect.
13. See a survey of CM-approving physicians in California, in Gardner, F. Which medical conditions are Californians actually using cannabis to treat? O'Shaughnessey's Summer 2003, pp. 2-4. An article by Dr. Tod Mikiriya, "Cannabis as a substitute for alcohol", pp. 5-8, appears in the same issue. (See also www.mikuriya.com for a selection of articles on this and related topics.) Another article in the same issue was written by Dr. Tom O'Connell (another experienced CM-approving physician in California). In "Notes on learning what to look for" (pp. 4, 13), Dr. O'Connell reports that most patients in his practice use CM at least in part as a harm-reducing way to obtain psychoactive effects that are important to their functioning - and which they would

them, for whom this consideration does not apply. In California, these patients represent just a tiny fraction of those currently receiving physician recommendations or approvals under Proposition 215. It is not known how many such patients have been given recommendations in other States.

15. Many patients continue to take pharmaceutical compounds in addition to CM, but the dosages of these compounds are typically reduced substantially from the levels required without CM. Clinical and pre-clinical studies have suggested that CM can reduce the need for opiate analgesia by 50 percent or more in chronic pain patients.
16. Appendix D is the intake form that I ask patients to fill out, including several questions on the history of the present illness.
17. Requiring such pre-evaluation would constitute a higher standard than is operated under by physicians who practice in relevantly similar settings, such as ambulatory care or urgent care centers. There is no requirement in these settings for patients to present records of previous evaluations.
18. As is the case with most pain-relievers, there is no "correct" dose of CM. Patients must titrate their dosage to achieve the desired effect, if possible without undesirable side effects. This is much easier to accomplish with CM than most other drugs.
19. The presence of food in the stomach can substantially affect the timing and extent of absorption of cannabis medicines. When adequately diluted, tinctures have no significant irritative effect on the stomach.
20. Items on the patient intake form ask patients if they have talked to their own doctors about their CM use, and if so what the reaction was. Of those patients with primary practitioners (N = 408), 214 (52.5 percent) had talked to their doctors about their medicinal cannabis use, while 194 (47.5 percent) had not. The most commonly cited reasons for not talking to their primary providers included "privacy", fear of disapproval, and not wanting to change the nature of their relationship. Of the 214 patients who told their primary providers about their cannabis use and reported on their reactions, 51 (24 percent) said they "agreed enthusiastically" with this use, 71 (35 percent) "agreed reluctantly", 73 (36 percent) "did not agree, but weren't hostile" to the idea, while 9 (4 percent) were described as "hostile".

[TOP]