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6
7 UNITED STATES DISTRICT COURT
8 EASTERN DISTRICT OF CALIFORNIA
9

10 UNITED STATES OF AMERICA,

11 Plaintiff,

12 v.

13 BRIAN PICKARD,

14 Defendant.

Case No. 2:11-CR-00449-KJM-16

DIRECT EXAMINATION OF
PHILIP A. DENNEY, M.D.

15
16 I, PHILIP A. DENNEY, M.D. declare as follows:

17 I am a physician licensed to practice medicine in the State of California since 1977. I
18 attended medical school at the University of Southern California after serving in the United
19 States Navy. Since graduation I have practiced Family, Emergency and Occupational Medicine.
20 I have never been disciplined by the Medical Board, nor have my hospital privileges been
21 revoked, suspended or restricted. I have been involved in the emerging field of cannabis
22 medicine since 1999, and have practiced in Loomis, Redding, Lake Forrest, Oakland and
23 Sacramento, California. I retired from active practice in 2010, but have continued to study the
24 developments in medical cannabis scientific/medical research.

25 I have qualified to testify as an expert witness regarding the medical use of cannabis in at
26 least 21 counties throughout California, and have also testified before the California Medical
27 Board regarding medicinal cannabis. I am a founding member of the Society of Cannabis
28 Clinicians. I have been active in the development of policy regarding cannabis as medicine in El

1 Dorado County, and in this regard have been asked to consult with Judges, District Attorneys,
2 and law enforcement officers about the medical use of cannabis. I also testified before the
3 Arkansas State Legislature regarding the implementation of cannabis as medicine laws and
4 policies, and have been consulted by members of the campaign to legalize the medical use of
5 cannabis in the state of Montana.

6 While cannabis is considered a Schedule I Controlled Substance under the federal law,
7 the overwhelming majority of current medical research contradicts such a classification. A
8 Schedule I “Controlled Substance” is defined in *21 U.S.C. section 812(b)(1)* as follows:

- 9 (A) The drug or other substance has a high potential for abuse;
10 (B) The drug or other substance has no currently accepted medical use in treatment in
11 the United States;
12 (C) There is a lack of accepted safety for use of the drug or other substance under
13 medical supervision.

14 For the reasons provided in this declaration, and those which may be presented at hearing,
15 it is my professional medical opinion that cannabis has a low potential for abuse, is currently
16 accepted and used medically to treat multiple serious medical conditions, and has been safely
17 used under medical supervision for nearly sixteen years in the State of California and elsewhere.
18 Moreover, the safety and medical efficacy of cannabis far exceeds that of many other prescribed
19 and over-the-counter (OTC) medications, in that it is less toxic, possesses a low abuse potential,
20 and is incapable of causing lethal overdose.

21 Based on my training, experience, and review of pertinent human-subject clinical trials
22 and other research conducted in accord with accepted principles and methodologies,¹ I have
23 formed the opinion that cannabis fails to meet the criteria for inclusion in Schedule I of the
24 Controlled Substances Act.

25 I attest to the following in support of this opinion:
26

27 ¹ Attached hereto, and incorporated by reference, is an Addendum which highlights those studies
28 which I believe are most significant to the issue before this Court, and therefore, exclude pre-clinical
trials, animal studies and anecdotal evidence.

1 **Cannabis and Potential for Abuse**

2 1. In determining whether a substance has a high potential for abuse, a physician assesses
3 both the physical and psychological effect of the drug. It is my opinion that cannabis has minimal
4 potential for physical abuse, and low potential for psychological abuse.

5 2. Cannabis is a non-toxic, non-lethal substance. There have been *no* confirmed deaths
6 resulting from an overdose of marijuana and, in fact, based on the physiological properties of the
7 plant, an overdose would be, as a practical matter, impossible.

8 3. Many over-the-counter medications pose inherent health risks, and some are toxic
9 even when used as recommended. As detailed, *infra*, adverse effects and/or overdoses can result
10 in permanent major organ failure and death.

11 4. Unlike many drugs, including some over-the-counter (OTC) medications, cannabis has
12 a notably low abuse potential, and cessation causes minimal physiological symptoms of
13 withdrawal.

14 5. While some studies have identified an association between cannabis use and
15 psychosis, none have identified a causal relationship between cannabis use and mental illness in
16 otherwise healthy individuals not already predisposed to these conditions. The association
17 between marijuana use and mental illness is most likely not one of causation, but rather reflects
18 the tendency of those in psychological distress to self-medicate, and the fact that diseases such as
19 schizophrenia and bipolar disorder generally manifest themselves in late adolescents and early
20 adulthood, which is the same age during which individuals are most likely to use illegal drugs.
21 Further, the hypothesis that marijuana may cause the onset of these serious mental illnesses is
22 contradicted by the evidence that worldwide rates of schizophrenia have largely remained static
23 despite dramatically changing rates of cannabis use by various populations over multiple
24 generations. In fact, through my training and experience I have found cannabis has been
25 successfully used to treat psychological disorders such as anxiety, depression and PTSD in a
26 number of patients who have not found other treatments sufficiently helpful.

27 6. The psychological effects of cannabis are similar to those of many OTCs. For
28 instance, relaxation, euphoria, and sedation are frequently reported with use of THC (the

1 psychoactive cannabinoid in marijuana). These same symptoms are common with cough
2 medicines, antihistamines, nausea medication, and many others.

3 7. Clinical trials and case studies on human subjects support my opinion that cannabis is
4 not only an effective medicine, but one with fewer and less serious side effects than many
5 medications in common use. Examples discussed in detail herein include:

6 A. Acetaminophen (OTC analgesics Tylenol)

7 B. Dextromethorphan: (OTC cough medications)

8 C. Acetylsalicylic Acid (aspirin)

9 D. Ibuprofen (Advil and Motrin)

10 A. Acetaminophen: Common Brand Name, Tylenol

11 8. Acetaminophen, is a widely used temporary pain reliever and fever reducer. The
12 substance carries a warning of the potential for severe liver damage even at relatively low doses.
13 For instance, the Physician's Desk Reference (PDR) for Nonprescription Drugs warns that sever
14 liver damage may occur if a patient takes more than 6 650 mg caplets in a 24 hour period, yet the
15 recommended dose for adults is 2 650 mg caplets every 8 hours. Accordingly even small
16 amounts over the recommended dose could cause serious harm.

17 9. Other side effects of this substance include upper gastrointestinal complications such
18 as bleeding, and kidney damage. There is also some evidence that chronic users of
19 acetaminophen may have a higher risk of developing blood cancer. For even modest users of
20 alcohol, these effects are more pronounced.

21 10. The FDA issued a warning on August 2, 2013, that this substance could cause a
22 serious skin reaction which could be fatal. Additionally, a 2010 study suggests that infertility of
23 adults whose mother used acetaminophen while pregnant could be the result of such use.

24 11. Significantly, acetaminophen hepatotoxicity is the most common cause of acute liver
25 failure in the United States, and results in more calls to poison control centers than the overdose
26 of *any* other pharmacological substance. Even if treated, an overdose can lead to liver failure
27 within days. While the most important toxic effect of acetaminophen is hepatic necrosis leading
28 to liver failure after an overdose, there are also reported cases of renal failure after overdose. On

1 January 14, 2014, the FDA issued a recommendation to health care professionals to discontinue
2 prescription combination drug products with more than 325 mg of acetaminophen in order to
3 protect consumers from liver damage. In April of 2014, the FDA had to “remind” health care
4 professionals to stop dispensing prescription combination drug products with more than 325 mg
5 of acetaminophen because they were “no longer considered safe by the FDA.”

6 B. Dextromethorphan Common brand names: Benlyn, Nyquil and Robitussin

7 12. Dextromethorphan, also referred to as DXM or DM, is used to temporarily relieve
8 cough due to minor throat and bronchial irritation. DXM is widely abused as it acts as a
9 dissociative hallucinogen. Even at recommended doses it can cause nausea, drowsiness,
10 dizziness, difficulty breathing, skin rashes, and hallucinations. At higher doses DXM can result
11 in hallucinations, dissociation, vomiting, hypotension, hypertension, tachycardia, diarrhea,
12 muscle spasms, sedation, euphoria, black outs, and loss of sight.

13 13. In addition, DXM can have serious health consequences when taken at the same time
14 or shortly after taking certain prescription medication used to treat depression, psychiatric
15 conditions, and Parkinson’s Disease.

16 14. Because this product simulates the effects of alcohol, it may be subject to abuse and
17 addiction in the same way, and has resulted in overdose.

18 C. Acetylsalicylic Acid

19 15. Acetylsalicylic Acid, or aspirin, is a nonsteroidal anti-inflammatory drug used to
20 temporarily relieve minor aches and pains, and to reduce fever. Even recommended doses
21 commonly cause Dyspepsia and mild to life-threatening gastrointestinal blood loss, and allergic
22 reactions such as hives, shock, facial swelling and asthma. Reye’s syndrome, which is a rare but
23 commonly fatal childhood illness, is a known risk to the use of aspirin. Further, toxic doses of
24 this substance can cause tinnitus, deafness, nausea, abdominal pain, flushing and fever.

25 D. Ibuprofen: Common brand names include Advil and Motrin.

26 16. Ibuprofen is a nonsteroidal anti-inflammatory used for temporary pain relief and
27 fever reduction. It is common for those taking therapeutic doses to suffer nausea, dyspepsia,
28 gastrointestinal ulcerations and bleeding, raised liver enzymes, diarrhea, constipation, epistaxis,

1 headache, dizziness, rash, salt and fluid retention, and hypertension.

2 17. Ibuprofen may cause a severe allergic reaction, causing hives, facial swelling,
3 asthma, shock, skin reddening, rash and blisters. Some studies indicate that chronic use of
4 Ibuprofen may cause hypertension and possibly myocardial infarction, renal impairment, broncho
5 spasm, and esophageal ulceration. Significantly, it can also be fatal to some asthmatics.

6 18. Also, when combined with diphenhydramine, the ingredients in Motrin PM, a patient
7 is warned not to operate a motor vehicle, as it will cause drowsiness.

8 * * *

9 19. Cannabis has not been linked to any of the serious side-effects associated with the
10 above described OTC medications.

11 20. A widely used measure of a drug's harmful effect is the Therapeutic Index, or Ratio.
12 This refers to the relationship between toxic and therapeutic dose, and is calculated by
13 determining the ratio of the dose that produces toxicity (TD50) and dividing it by that which
14 produces a clinically desired or effective response (ED50), in 50% of the subjects. A low
15 therapeutic index heightens the drug's potential to be lethal. Some over-the-counter medications
16 have a low Therapeutic Index, meaning the difference between the therapeutic and toxic dose is
17 very small. For example, the estimated Therapeutic Index for acetaminophen is less than 3 and
18 may be lower with alcohol use. The Therapeutic Index for aspirin is less than 5 and bleeding can
19 occur even at the recommended dose. In contrast, the Therapeutic Index for cannabis is
20 estimated to be between 1,000 and 40,000.²

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27 ² It should be noted that, since there are no confirmed deaths nor life threatening harm caused by
28 the overdose of marijuana, the Therapeutic Index for cannabis is theoretical. Also, because it would be
impossible to ingest 1,000 to 40,000 times the therapeutic dose within the time required to test its impact,
practically the Therapeutic Index in the case of marijuana ingestion does not exist.

21. The following table compares the Therapeutic Index of above OTCs with cannabis:

Substance	Therapeutic Index
Cannabis	1000 - 40,000
Dextromethorphan: (cough meds)	< 10
Acetaminophen	< 3
Aspirin	< 5
Ibuprofen	< 20

22. I have chosen to make the comparison between cannabis and over-the-counter medications to demonstrate the benign nature of the former; however, the obvious should be noted: the potential for abuse associated with prescription medications is far greater than that posed by OTCs, let alone cannabis. A comparison between cannabis and prescription medications demonstrates compelling evidence that the former is safer and can be more effective in treating illnesses. For example, the Therapeutic Index for many prescription medications such as psychiatric medications, opiates, cardiac medications, etc., are less than 10. The mortality rate for each of many prescription medications is significant. Furthermore, known side effects of prescription medications are far too numerous to here articulate. I can think of no prescription medication which has fewer potential harmful side effects than cannabis.

23. Finally, an evaluation of cannabis is not complete without comparing it to alcohol and tobacco. Tobacco being the more toxic substance, and alcohol a close second. The excess death rate associated with use and abuse of these substances is staggering. The Center for Disease Control and Prevention (CDC) reports more than 480,000 deaths are caused by smoked tobacco annually in the United States,³ and nearly 90,000 deaths are caused by excessive use of

³ Center for Disease Control and Prevention: Tobacco Related Mortality 2014, States, http://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm

1 alcohol.⁴

2 **Cannabis is Accepted in the Medical Community as a Safe and Effective Medication**

3 24. Since the passage of the medical cannabis laws in states such as California,
4 controlled studies have confirmed that cannabis is a safe and effective medicine for treating many
5 medical conditions.

6 25. Medical practitioners overwhelmingly support the use of cannabis as medicine. A
7 survey conducted by the *New England Journal of Medicine* in 2013 found that the majority of
8 clinicians polled in favor of the use of marijuana for medicinal purposes, with votes in favor of
9 cannabis' use as medicine tallying at 76%. Again, in April, 2014, a WebMD survey evidenced
10 that 69% of surveyed physicians believed cannabis can help with certain treatments and
11 conditions, and 67% agreed that cannabis should be a medical option for patients.⁵

12 26. Numerous associations of physicians and other medical practitioners in this country
13 have called for the legalization of cannabis as medicine, including, but not limited to: the
14 Epilepsy Foundation of America, American Medical Student Association, American Nurses
15 Association, American Preventive Medical Association, American Public Health Association, as
16 well as various associations for the following states: Alaska, California, Colorado, Connecticut,
17 Florida, Hawaii, Illinois, Mississippi, New Jersey, New Mexico, New York, North Carolina,
18 Rhode Island, Texas, Vermont, and Wisconsin. Further, many others, including but not limited
19 to the American Medical Association and the American Cancer Society, have called for further
20 clinical research into the potential medical benefits of cannabis.

21 27. Cannabis has also been increasingly recognized as an effective and safe medicine in
22 government-funded studies.

24 ⁴ Center for Disease Control and Prevention: Fact Sheet Alcohol Use and Health, 2014
25 <http://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm>. Furthermore, the 2014 WHO (World Health
26 Organization) Report on Alcohol-Induced Mortality found there were 3.3 million alcohol-related deaths
in 2012 worldwide. http://www.who.int/substance_abuse/publications/global_alcohol_report/en/

27 ⁵
28 <http://www.webmd.com/news/breaking-news/marijuana-on-main-street/20140225/webmd-marijuana-survey-web>

1 28. For example, the National Institutes of Health's National Institute on Drug Abuse
2 [NIDA] funded a project performed at the University of California at Los Angeles. The purpose
3 of this project was to determine if smoking cannabis increased the risk of cancer similar to
4 smoking tobacco. The researchers concluded: “[C]ontrary to our expectations, we found no
5 positive associations between marijuana use and lung or UAT [Upper Aerodigestive Tract]
6 cancers. Although we observed positive dose-response relations of marijuana use to oral and
7 laryngeal cancers in the crude analyses, the trend was no longer observed when adjusting for
8 potential confounders, especially cigarette smoking. In fact, we observed ORs <1 for all cancers
9 except for oral cancer, and a consistent monotonic association was not apparent for any
10 outcome.”⁶

11 29. Beginning in 2000, the state of California sponsored a number of randomized,
12 placebo controlled trials evaluating the safety and therapeutic efficacy of whole smoked cannabis
13 for a variety of patient populations, including subjects diagnosed with multiple sclerosis, HIV,
14 and chronic neuropathy. A review of these trials, published in 2012, by Igor Grant, M.D.,
15 (CMCR), J. Hampton Atkinson, Ben Gouaux, and Barth Wilse, concluded:

16 Based on evidence currently available the Schedule I classification is not tenable;
17 it is not accurate that cannabis has no medical value, or that information on safety
18 is lacking. It is true cannabis has some abuse potential, but its profile more closely
19 resembles drugs in Schedule III (where codeine and dronabinol are listed). The
20 continuing conflict between scientific evidence and political ideology will
21 hopefully be reconciled in a judicious manner.⁷

22 30. Even the National Highway Traffic Safety Administration, a Federal agency, has
23 published reports recognizing the medicinal use of cannabis in its Drugs and Human
24 Performance Fact Sheet, which states:

25 Medical and Recreational Uses: Medicinal: Indicated for the
26 treatment of anorexia associated with weight loss in patients with
27 AIDS and to treat mild to moderate nausea and vomiting associated
28 with cancer chemotherapy.

26 ⁶ Hashibe et al. 2006. *Marijuana Use and the Risk of Lung and Upper Aerodigestive Tract*
27 *Cancers: Results of a Population-Based Case-Control Study* 15: *Cancer Epidemiology Biomarkers and*
28 *Prevention*: 1829

28 ⁷ Igor Grant, M.D., et. al., “*Medical Marijuana: Clearing Away the Smoke,*” *The Open*
Neurology Journal, 2012, 6, p. 18-25.

1 31. In my practice, I cautioned patients to avoid driving after using many prescription
2 drugs, over the counter medications, as well as cannabis. I believe cannabis can influence
3 psychomotor performance, particularly among more naive subjects and/or if consumed in concert
4 with alcohol. The relative risk, however, associated with marijuana-only positive drivers and
5 accidents is relatively low. Further, studies have shown that the impact of cannabis use on
6 driving performance is relatively small. The federal government's own sponsored studies inform
7 this opinion. (See, e.g., *Visual Search and Urban City Driving Under the Influence of Marijuana*
8 *and Alcohol*, "It was concluded that the effects of low doses of THC (100 mg/kg) and alcohol
9 (BAC<0.05 g/dl) on visual search and general driving proficiency are minimal when taken alone,
10 but potentially dangerous for traffic safety when taken in combination,"⁸ and *Marijuana and*
11 *Actual Driving Performance*, "THC's adverse effects on driving performance appear relatively
12 small."⁹

13 32. Further, in 2013, a meta-analysis published in the Journal *Accident Analysis and*
14 *Prevention* indicates that the adjusted odds ratio for the likelihood of a marijuana positive driver
15 being culpable in a traffic accident compared to a drug-negative driver is just above 1 (not
16 statistically significant at the 5% level) and is on par with the odds ratios associated with
17 penicillin and anti-histamines.¹⁰ By contrast, a recent paper identified greater odds of culpability
18 of accident associated with drivers with a BAC of .01% (OR=1.46).¹¹

19 33. Due to cannabis' status as a Schedule I substance, researchers desirous of obtaining
20 marijuana for scientific and medical study must, by federal statute, seek approval from the DEA,
21 Public Health Service, FDA, and the NIDA. While this has proven to be difficult for some
22 investigators, clinical studies evaluating the safety and therapeutic efficacy of cannabis are being
23

24 ⁸ <http://ntl.bts.gov/lib/26000/26000/26003/DOT-HS-809-020.pdf>

25 ⁹ <http://ntl.bts.gov/lib/25000/25800/25867/DOT-HS-808-078.pdf>

26 ¹⁰ Rune Elvik. 2013. *Risk of road accident associated with the use of drugs: a systematic review*
27 *and meta-analysis of evidence from epidemiological studies*. *Accident Analysis and Prevention* 60:
28 254-267.

¹¹ <http://injuryprevention.bmj.com/content/early/2014/01/07/injuryprev-2013-040925>.

1 conducted both in the United States and abroad.¹² I have listed numerous peer-reviewed papers
2 assessing the therapeutic use of cannabis in human subjects in the attached addendum; these
3 include several randomized, placebo-controlled trial designs. This body of research demonstrates
4 remarkable promise in using cannabis to treat the following illnesses, diseases and symptoms:
5 Parkinson's Disease, Crohn's Disease, Pain, Epilepsy, Cancer, Irritable Bowl Syndrom, Diabetes,
6 Post Traumatic Stress, Neuropathy, Multiple Sclerosis, HIV, Fibromyalgia, Cluster Headaches,
7 Schizophrenia, Hepatitis C, and Incontinence.

8 34. Further research was presented at the Eighth National Clinical Conference on
9 Cannabis Therapeutics (a Continuing Medical Education course). Physicians and scientist from
10 around the world presented the results of studies conducted to test the efficacy and danger of
11 using cannabis to treat Alzheimer's Disease (Julian Romero, Ph.D.), Neuromuscular Diseases,
12 (Greg Carter, M.D.), Hepatitis C, (Diana Silvestre, M.D.), Cancer, (Donald Abrams, M.D, and
13 Sara Jane Ward, Ph.D.) Cardiovascular Problems (Reem Smoum, Ph.D.), Cannabis Use in
14 Nursing Homes in both California and Israel (Jeffrey Hergenrather, M.D., and Zack Klein, MSc¹³
15 Candidate), Cannabis Use in Hospice and Palliative Medicine, (Sunil Aggarwal, M.D. Ph.D.)
16 These studies overwhelmingly conclude that cannabis is an effective and safe medicine. Further,
17

18 ¹² It should be noted that Dr. Tashkin had some difficulty getting his research paper published
19 after his results demonstrated cannabis was not a carcinogenic despite the fact that it was sponsored by
20 the National Institutes of Health. Also, Donald Abrams, M.D., had difficulty acquiring research grade
21 cannabis for his landmark study dealing with cannabis and AIDS. And, Dr Lyle Craker's attempts to
acquire a license to produce research grade cannabis, like the one issued in Mississippi for the NIDA
program, have been unsuccessful.

22 ¹³ The use of cannabis to treat patients suffering from dementia and Parkinson's Disease at a
23 nursing home in Tel-Aviv was featured on a special television program reported by Sanja Gupta
(<http://edition.cnn.com/TRANSCRIPTS/1403/09/se.01.html>.) It included 27 patients, some of whom are
24 Holocaust survivors, and demonstrate the following results after cannabis treatment: (1) Discontinuation
25 of pain relief medications, (2) improvement of appetite and weight gain, (3) Improvement in eating
26 ability, (4) decreased muscle contractions, (5) Improved sleep and decrease in the use of sleeping
27 medications, and (6) discontinues use of enema treatments. Observational data from 113 cancer patients
28 using cannabis at an academic medical center in Israel was published on June 14, 2014, and concluded:
"Cannabis use is perceived as highly effective by some patients with advanced cancer and its
administration can be regulated, even by local authorities. Additional studies are required in order to
evaluate the efficacy of cannabis as part of the palliative treatment of cancer patients." J Pain Symptom
Manage 2014 Jun 14, *Patterns of Use of Medical Cannabis Among Israeli Cancer Patients: A Single
Institution Experience*. <http://www.ncbi.nlm.nih.gov/pubmed/24937161>.

1 these results are supported by the scientific understanding of how the naturally occurring
2 endocannabinoids react and interact with various cannabinoids in the marijuana plant which
3 explains the remarkable health improvement.

4 35. Since the passage of the medical cannabis laws in states such as California, scientific
5 studies have confirmed that cannabis is a safe and effective medicine for treating many medical
6 conditions. In 2011, Gregory T. Carter, MD, MS, Mitchell Earleywine, PhD, and Jason T.
7 McGill, JD, prepared a comprehensive report outlining the research and scientific evidence
8 supporting the use of cannabis as medicine which was incorporated into a petition brought by
9 several state Governors pressing for the rescheduling of marijuana. The report concludes that the
10 mounting scientific evidence and consensus of medical opinion support the position I propose: it
11 is irrational to classify marijuana as a schedule I controlled substance as it fails to meet the
12 criteria for so doing. Further, the report refutes all assertions recently made by the DEA
13 regarding the harmful effects of cannabis.

14 **Cannabis can be safely used particularly under medical supervision**

15 36. The federal government has conducted its own medical cannabis program through
16 the National Institutes of Drug Abuse which has been supervising the distribution of marijuana
17 for almost forty years.

18 37. As a physician practicing in California following the passage of the Compassionate
19 Use Act, I was easily able to monitor my patients use of cannabis as medicine. In fact, because
20 marijuana has minimal toxicity and has limited side effects, patients using cannabis are much
21 easier to care for than those taking routinely prescribed medications.

22 38. Furthermore, as a founding member of The Society of Cannabis Clinicians as well as
23 through my involvement in other professional organizations, I have had many opportunities to
24 discuss the experiences of my colleagues who agree supervision of cannabis patients pose few
25 medical concerns. In fact, the greatest concern for our medical cannabis patients arises out of the
26 fact that marijuana remains illegal for all purposes under federal law, thereby increasing the price
27 of obtaining their medicine and the risk of cultivating the plant.

28 39. The argument is sometimes made that the risks described above can be avoided since

1 the medicinal benefits of marijuana are available through prescription Marinol - a synthetic form
2 of THC approved by the FDA for the treatment of wasting syndrom associated with cancer and
3 AIDS. Patients, however, report that the use of Marinol is ineffectual because swallowing a pill
4 can prove impossible for those using the drug to reduce nausea. Moreover, Marinol incorporates
5 only the one cannabanoid, ironically the one which produces the most psychoactive effect, yet
6 studies have established that cannabidiol (CBD), a non-psychoactive cannabinoid, is effective in
7 treating many serious illnesses including controlling seizures.

8 40. As is obvious from the studies referenced in my addendum, the therapeutic qualities
9 of the cannabis plant reach far beyond the treatment of anorexia and nausea

10 41. In fact, while there has yet to be a clinical trial testing the hypothesis, there is much
11 speculation within the medical community regarding the potential benefits produced from strains
12 of marijuana which contain low levels of THC. In the May 2014 issue of *Scientific American*, it
13 was reported that researchers are conducting a year-long trial to test whether the use of
14 cannabidiol, one of the cannabinoids found in the marijuana plant, diminishes the epileptic
15 activity in 150 children who have not been helped by standard seizure medication. On June 17,
16 2014, GW Pharmaceuticals in the UK released clinical data from this study evaluating the use of
17 a cannabis-based extract high in cannabidiol content in 27 patients with intractable pediatric
18 epilepsy which indicated an overall reduction in seizure frequency as compared to baseline
19 seizure frequency was 44% and median overall reduction in seizure frequency as compared to
20 baseline seizure frequency was 42%.¹⁴

21 42. Since the publicity surrounding the use of a high CBD/low THC strain of the
22 cannabis to treat a six year old child suffering from Dravet Syndrom in Colorado, families with
23 children suffering from seizure disorders have been relocating to Colorado in order to seek
24 cannabis treatment. Margaret Gedde, M.D., a Colorado Springs physician, has been monitoring
25 11 children using cannabis to treat their severe seizures. In a November 2013 interview with a

26
27 ¹⁴ While the children in these studies are being treated with cannabis-based extract containing
28 high concentrations of cannabidiol - a naturally occurring compound in cannabis, this extract is still
classified as a Schedule I Controlled Substance in the United States.

1 reporter from the Salt Lake City Tribune, Dr. Gedde reported nine of these children have had a
2 90 to 100 percent reduction in their seizures, one has had a 50% reduction, and one has reported
3 no change.

4 43. It is apparent that medical supervision is not only possible, but is occurring in places
5 like Colorado where the community has come together to successfully supervise the
6 administration of cannabis to the most vulnerable of our society: severely compromised young
7 children.

8 44. In sum, it is my considered opinion that including marijuana and THC in Schedule I
9 of the Controlled Substances Act is inappropriate for the following reasons:

- 10 A. Medicinal cannabis is effective for many medical conditions;
11 B. Medicinal cannabis can be used safely, particularly under medical supervision;
12 C. Medicinal cannabis is safer than the use of many other commonly used medications;
13 D. The major harm of cannabis use is its continued illegality.

14 I declare under penalty of perjury that the foregoing is true and correct, except for those
15 matters stated on information and belief, and as to those matters I believe them to be true. This
16 declaration signed on the 19th day of June, 2014, in Pahoia, Hawaii.

17
18 /s/ Philip A. Denney, M.D.
PHILIP A. DENNEY, M.D.

**DECLARATION OF PHILIP A DENNEY, M.D.
ADDENDUM**

I, Philip A. Denney, M.D., provide the following as a non-exhaustive list of recent, relevant controlled trials, case-reports, observational trials, survey data, or reviews in the peer-reviewed literature indicating the safety and efficacy of the administration of whole-plant cannabis or cannabinoids in specific patient populations. I have distinguished for this Court these research papers as they are the most informative due to the applied scientific design of the study.

Waissengrin B et al. 2014 Jun 14 [Epub ahead of print] Patterns of Use of Medical Cannabis Among Israeli Cancer Patients: A Single Institution Experience. *Journal of Pain Symptom Management* (2014. Doi:10.1016/j.painsymman.2014.05.018
SURVEY AND OBSERVATIONAL, CLINICAL (NO PLACEBO GROUP)

Lotan et al., 2014. Cannabis (medical marijuana) treatment for motor and non-motor symptoms of Parkinson disease: an open-label observational study. *Clinical Neuropharmacology* 37: 41-44. OBSERVATIONAL, CLINICAL (NO PLACEBO GROUP)

Natfali et al., 2013. Cannabis Induces a Clinical Response in Patients with Crohn's Disease: a Prospective Placebo-Controlled Study. *Clinical Gastroenterology and Hepatology* 11: 1276-1280. CLINICAL, PLACEBO-CONTROLLED

Cooper et al, 2013. Comparison of the Analgesic Effects of Dronabinol and Smoked Marijuana In Daily Marijuana Smokers. *Neuropsychopharmacology* 38: 1984-1992. CLINICAL, PLACEBO-CONTROLLED

Porter and Jacobson. 2013. Report of a parent survey of cannabidiol-enriched cannabis use in pediatric treatment-resistant epilepsy. *Epilepsy & Behavior* 29: 574-577 SURVEY

Singh and Bali. 2013. Cannabis extract treatment for terminal acute lymphoblastic leukemia with a Philadelphia chromosome mutation. *Case reports in Oncology* 6: 585-592. CASE SUMMARY

Ravikoff et al., 2013. Marijuana use patterns among patients with inflammatory bowel disease. *Inflammatory Bowel Diseases* 19: 2809-2814. SURVEY

Penner et al. 2013. Marijuana use on glucose, insulin, and insulin resistance among US adults. *American Journal of Medicine* 126: 583-589. OBSERVATIONAL, CASE-CONTROL

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program: An examination of benefits and adverse effects of legal clinical cannabis. *Journal of
Cannabis Therapeutics* 2: 3-57 CLINICAL, OBSERVATIONAL (NO PLACEBO GROUP)

CURRICULUM VITAE

PERSONAL:

Age 55; Married to Latitia; Three children: Sarah, age 29, Elizabeth, age 27, Camille 19; Height 5'10"; Weight 180 lbs.

BACKGROUND:

Born in Washington, D.C.; raised in Hyattsville, MD. Father - Architect; Mother - Registered Nurse. Eldest of three brothers and four sisters. Roman Catholic primary and high school education with participation in baseball, football and boxing with Hyattsville Boys Club.

MILITARY:

U. S. Navy (1966-1972); Active Duty (1966-1970). Aircraft Emergency Equipmentman Second Class (ES), Antisubmarine Flight Crewman, Atlantic Patrol, 1,000 hours flight time. Sport parachute team member.

EDUCATION:

- ❖ Pennsylvania State University (1968)
- ❖ Bucks County Community College (1968-1971)
- ❖ Ohio University (1970-1972); Honors College (1971)
 - Board of Directors of United Campus Ministry (1971)
 - Psychiatric Technician, Athens State Hospital (1970-1972)
 - Clavine Alkaloid Research (1972)
- ❖ University of Southern California School of Medicine (1972-1976)
 - Doctor of Medicine (June 3, 1976)
 - Foothill Free Clinic (1974-1976)
 - CMA Alternate Delegate (1973-1974); CMA Delegate (1974-1975)
 - Consultant Reference Committee "B" CMA (1975)

PROFESSIONAL ACTIVITIES:

- ❖ L.A. County - USC Medical Center - Flex "A" rotating internship (1976-1977)
- ❖ Auburn Medical Clinic, Auburn, CA - Group general and family medical practice (1977-1978)
- ❖ Greenwood Medical Clinic, Greenwood, GA - Solo general and family medical practice (1978-1984)
- ❖ Sacramento Emergency Medical Group, Cordova Health Center, Rancho Cordova, CA - Urgent Care/Family practice (1984-1987)
- ❖ Med Center Medical Group, Citrus Heights, CA - Facility Medical Director, Urgent Care/Family practice (1987-1989)
- ❖ Sierra Pacific Emergency Medical Group, Mercy San Juan Hospital Satellite Facility, Carmichael, CA - Assistant Medical Director/Emergency Services (1989-1994)
- ❖ Medical Clinic of Sacramento, Sacramento, CA - Urgent Care (1994-1996)
- ❖ Meridian Occupational Medicine Group, Sacramento, CA - Facility Medical Director (1996-1997)
- ❖ HealthSouth Medical Clinic, Rocklin, CA - Facility Medical Director (1997-1999)
- ❖ Marshall Hospital - Medical Director, Marshall Center for Occupational Health (1999-2000)
- ❖ Phillip A. Denney, M.D. - Medical Cannabis Evaluation (2000-Present)
- ❖ Medicinal Cannabis Testimony - Alameda, Alpine, Butte, El Dorado, Humboldt, Napa, Nevada, Placer, Riverside, Sacramento, San Bernardino, San Francisco, San Joaquin, Santa Clara, Shasta, Sonoma, Stanislaus, Tehama, Trinity and Tulare Counties
- ❖ Guest lecturer - USC School of Medicine - Clinical Uses of Cannabis (2005)
- ❖ Testimony Medicinal Cannabis Policy - Arkansas State Legislature (2005)

HOSPITAL PRIVILEGES:

- ❖ Auburn Faith Community Hospital - Attending staff in family medicine, pediatrics and obstetrics (1977-1985)
- ❖ Sutter General Hospital - Attending staff, family practice (1985-1987)
- ❖ Mercy San Juan Hospital - Senior staff, emergency medicine (1989-1994)
- ❖ Marshall Hospital - Courtesy staff (1999 to 2000)
- ❖ California License G34393; BNDD Number AD 7581045

PROFESSIONAL SOCIETIES:

- ❖ Society of Cannabis Clinicians - President (2006 to present)