A Rebuttal to the Anti-Medical Marijuana Arguments Posed by the U. S. Drug Enforcement Administration on their website page "Exposing the Myth of Medical Marijuana"

Note: Since the publication of this document, DEA has removed its article from its website and replaced it with a brief summary of its position. We retain this rebuttal for public access because the DEA and other opponents of medical use continue to use these same arguments.

Persons seeking information about the pros and cons of marijuana's use as medicine should be able to rely on the truthfulness of information put forth by their own government's agencies. Sadly, in the issue of medical marijuana, the authors of this paper conclude that Americans cannot rely on the United States government's premier drug agency, the Department of Justice's Drug Enforcement Administration, to present all the information, to present truthful information, and not to present information which is off the subject and which serves to raise false arguments. The authors conclude that the U. S. DEA, through its presentation of information on the website page cited above, attempts to influence states' voters on issues before the states' electorates and further to sway public opinion toward a particular political position, acts which fall outside the acceptable and legal domain of a governmental agency.

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Note 1: The term "addiction" in this paper is generally understood to refer to physical dependency. The psychological form of addiction may be referenced as well.

Note 2: Rebuttal statements follow DEA statements. Footnotes listed in DEA material are referenced at the bottoms of the pages. Footnotes referenced in rebuttals are listed at the end of the paper.

Exposing the Myth of Medical Marijuana

Marijuana: The Facts

DEA Question I

Q: Does marijuana pose health risks to users?

Answer: I. a. Marijuana is an addictive drug[1] with significant health consequences to its users and others. Many harmful short-term and long-term problems have been documented with its use.

Rebuttal I. a. :

1. Whether marijuana poses health risks is an inappropriate and disingenuous question in regards to medical use. All prescription drugs pose varying levels of risk to the patient, including addiction.

> Consider, for example, the possible side effects listed for a highly addictive yet common pain medication Percocet (Oxycodone-Acetaminophen): Fast or slow heartbeat, trouble breathing, swelling of the face, hives, skin rash, itching. Hallucinations, changes in behavior. Severe confusion or tiredness. Yellowing of the skin or eyes. Dry mouth, nausea, or vomiting. Constipation. Headache, drowsiness, dizziness or weakness. Blurred vision.

Patients using marijuana for medicine voice concern about the use of strong drugs such as Percocet and report their preference for the relatively milder side effects of marijuana.

A more appropriate question would be whether marijuana is relatively more or less of a health risk compared to other drugs available for the treatment of a particular medical condition or symptom.

2. Marijuana is not considered an addictive drug. Persons using marijuana may become habituated to the use of marijuana, but the primary hallmarks of "addiction" are not produced by marijuana use. The National Institute of Drug Abuse (NIDA) concludes:

> Addiction is a state in which an organism engages in a compulsive behavior, even when faced with negative consequences. This behavior is reinforcing, or rewarding, [by creating pleasurable neural response]. A major feature of addiction is the loss of control in limiting intake of the addictive substance. The most recent research indicates that the reward pathway may be even more important in the craving associated with addiction,

[1] Herbert Kleber, Mitchell Rosenthal, "Drug Myths from Abroad: Leniency is Dangerous, not Compassionate" Foreign Affairs Magazine, September/October 1998. Drug Watch International "NIDA Director Cites Studies that Marijuana is Addictive." "Research Finds Marijuana is Addictive," Washington Times, July 24, 1995.

compared to the reward itself. Scientists have learned a great deal about the biochemical, cellular and molecular bases of addiction; it is clear that addiction is a disease of the brain.

In discussing the hallmarks of addiction, NIDA scientist Jack E. Henningfield, PhD., assigned five qualities to substances by which to measure relative addictiveness:

Dependence – how difficult it is for the user to quit, the relapse rate, the percentage of people who eventually become dependent, the rating users give their own need for the substance, and the degree to which the substance will be used in the face of evidence that it causes harm. This is physical dependence.

Withdrawal – the presence and severity of characteristic withdrawal symptoms, involved in physical dependence

Tolerance – how much of the substance is needed to satisfy increasing cravings for it, and the level of stable need that is eventually reached. Involved in physical dependence.

Reinforcement – a measure of the substance's ability, in human and animal tests, to get users to take it again and again, and in preference to other substances, involved in physical dependence.

Intoxication – though not usually counted as a measure of addiction in itself, the level of intoxication is associated with addiction and increases the personal and social damage a substance may do

Compared to nicotine, heroin, cocaine, alcohol, and caffeine, marijuana was ranked by Dr. Henningfield as the least addictive. In creating dependence, producing withdrawal symptoms, and leading to the development of tolerance, marijuana ranked lower than all four other substances. In reinforcement, marijuana ranked at the same level as caffeine. Marijuana's highest quality was in intoxication, where it was ranked fourth below alcohol, heroin, and cocaine, respectively.

The most recent analysis, "A review of the published literature into cannabis withdrawal symptoms in human users," by N T Smith, published in the journal *Addiction* (2002 Jun: 97 (6): 621-32), reviewed existing research and cautioned that "animal research does not provide a clear picture of a consistent withdrawal effect" and that there are "methodological weaknesses in the literature." The author concludes that "on the basis of current research cannabis cannot be said to provide as clear a withdrawal pattern as other drugs of abuse, such as opiates."

In contrast, marijuana use shows promise in assisting persons fighting addiction. Diana Cichewicz at Virginia Commonwealth University has recently shown that THC blocks the development of tolerance and withdrawal in experimental animals (Cichewicz and Welch 2002). Clinicians in 19th America and Europe knew the same thing. Recently, NIDA scientists did get monkeys to self-administer THC, but only after they were experimentally addicted to cocaine (Tand, Munzar, and Goldberg 2000) None of the authors raised the possibility that THC actually served to reduce cocaine withdrawal effects, as noted in the 19th century (Mattison 1891).[1]

3. The DEA's citations for its sources of authority in naming marijuana as an "addictive" drug include no research or studies supporting its claim.

For example, the first citation, Herbert Kleber, Mitchell Rosenthal, "Drug Myths from Abroad: Leniency is Dangerous, not Compassionate" *Foreign Affairs Magazine,* September/October 1998, is merely an article in a magazine. This article contains a short analysis of drug policies in various nations. In particular, the article is concerned with drugs such as heroin, mentioning heroin clean-needle policy in Switzerland. A brief portion of this article mentions marijuana addiction and side effects, but no source is cited showing whether this is a person's opinion or whether there is any data to back up the assertion that marijuana is addictive.

The second citation, Drug Watch International "NIDA Director Cites Studies that Marijuana is Addictive," is incorrectly cited. There are no publication dates. A possible explanation of this problem is that this is meant to be part of the next citation, "Research Finds Marijuana is Addictive," *Washington Times*, July 24, 1995. This news article is also incorrectly cited. The article was published on July 20, 1994. The title of the article stated that marijuana is addictive, but the source used within the article is misquoted. Corrected, the quote states: "Smoking marijuana *can* be addictive." [italics added]

DEA Answer to Question I continues:

I. b. "The short term effects of marijuana use include memory loss, distorted perception, trouble with thinking and problem solving, loss of motor skills, decrease in muscle strength, increased heart rate, and anxiety.[2]

Rebuttal I. b:

1. Short term effects of marijuana must be compared to the short term effects of other drugs used to address the same medical condition or symptom. DEA makes a false comparison here.

2. Marinol's short term effects include the same effects decried by DEA in its complaint about marijuana: memory loss, distorted perception, trouble with thinking and problem solving, loss of motor skills, decrease in muscle strength, increased heart rate, and anxiety. In various references, DEA mentions prescription drug Marinol® as a suitable alternative to marijuana. Marinol, which is a synthetic version of THC, or delta-9 tetrahydrocannabinol – marijuana's primary active ingredient – is available as a Schedule III drug.

Laboratory tests with Marinol® conducted by the manufacturer yielded the following adverse results as most frequent: Body as a whole: Asthenia (weakness). Cardiovascular: Palpitations, tachycardia, vasodilation/facial flush. Digestive: Abdominal pain*, nausea*, vomiting*. Nervous system: (Amnesia), anxiety-nervousness, (ataxia), confusion, depersonalization, dizziness*, euphoria*, (hallucination), paranoid reaction*, somnolence*, thinking abnormal*. *Incidence of events 3% to 10% (Information obtained from Unimed Pharmaceuticals, Inc.) Patients comparing Marinol with marijuana in research studies complain that Marinol causes a greater

[2]National Institute of Drug Abuse, *Journal of the American Medical Association, Journal of Clinical Pharmacology, International Journal of clinical Pharmacology and Therapeutics, Pharmacology Review.*

psychoactive effect than marijuana.

DEA Answer to Question I continues:

I. c. "In recent years there has been a dramatic increase in the number of emergency room mentions of marijuana use. From 1993-2000, the number of emergency room marijuana mentions more than tripled."

Rebuttal I. c.:

1. There is no causative correlation between emergency room mentions of marijuana use and any danger in the use of marijuana. Rather, an increase in emergency room mentions can only be held to show that a greater number of persons are using marijuana. Emergency room mentions of marijuana are cases where a person admitted for any reason would mention his/her use of marijuana as part of the intake interview. Such use may or may not have been a recent use. Such use may or may not have any bearing on the reason for the person's visit to the emergency room.

2. According to the same federal report citing emergency room mentions of marijuana use (www.DrugAbuseStatistics.samhsa.gov) the research shows that mentions of alcohol use in combination with other drugs also tripled between 1994 and 2001. Readers may wish to compare the number of 2001 mentions of marijuana use (110,512 cases) to the number of 2001 mentions of alcohol with other drugs use (218,005 cases) in an effort to assign relevance to the data cited by DEA.

Of interest also was the dramatic increase between 2000 to 2001 in emergency room mentions of non-medical use of legal prescription or non-prescription medications. Over 43% of the 1.1 million emergency department drug mentions in 2001 were in this category (430,974 cases) with psychotherapeutic agents (anti-anxiety drugs such as Valium and Xanax, sedatives, hypnotics) comprising 19% of total admissions and central nervous system agents comprising 18%.

Most alarming were increases in central nervous systems agents such as hydrocodone (up 313% since 1994), methadone (up 230%), morphine and its combinations (up 210%), oxycodone and its combinations (up 352%) and narcotic analgesics that were not specified (up 288%).

Based on the DEA argument that a tripling of emergency room mentions of marijuana since 1994 serves to justify federal policy banning medical use, readers may wish to question whether a ban on medical use should be considered for abused central nervous system agents.

DEA's failure to observe in a balanced manner the greater risk of abuse associated with pharmaceutical products for specific ailments compared to marijuana, while devoting significant agency drug policy budget to the disproportionate alarm cry over marijuana use for the same types of ailments raises questions about the DEA's de facto role as shill for multinational drug corporations.

DEA Answer to Question I continues:

I. d. "There are also many long-term health consequences of marijuana use. According to the National Institutes of Health, studies show that someone who smokes five joints per week may be taking in as many cancer-causing chemicals as someone who smokes a full pack of cigarettes every day."

Rebuttal I.d. :

1. The operative word in this DEA statement is "may." The majority of studies investigating marijuana's effect on the lungs has shown that heavy tobacco smokers are much more likely to report chronic cough, phlegm, wheezing, and episodes of bronchitis than are heavy marijuana smokers.[2] As reported by Kaiser Permanente Medical Care Program, researchers found that people who smoked marijuana daily and did not smoke tobacco were only slightly more likely than non-smokers to make outpatient visits for respiratory illnesses. During a six-year period, 36% of daily marijuana smokers sought treatment for colds, flu, and bronchitis. The rate among non-smokers was slightly lower, 33%.[3]

2. In order for the DEA to reasonably support a ban of marijuana use for medical purposes because of a potential health threat from the agents of the smoke, the DEA would also have to support a ban on cigarette smoking. Whether or not marijuana smokers take in "as many cancer-causing chemicals as someone who smokes a full pack of cigarettes every day," persons who wish to smoke cigarettes do so without threat of arrest. Not only does the DEA not argue for a ban on cigarette smoking, but no one including the DEA can show that legal cigarette use has any beneficial medical benefit similar to the benefits shown from marijuana use.

3. In spite of the best efforts of researchers over at least four decades, there have been no studies showing that marijuana leads to cancer or emphysema. "In a 1997 paper reporting the latest findings [in an ongoing study conducted since 1983], researchers conclude that 'in contrast to the accelerated annual rate of decline in lung function that occurs in regular tobacco smokers of comparable age ... findings in the present study do not support an association between even heavy, regular marijuana smoking and the development of chronic obstructive lung disease."[4]

DEA Answer to Question I continues:

I. e. "Marijuana contains more than 400 chemicals, including most of the harmful substances found in tobacco smoke. Smoking one marijuana cigarette deposits about four times more tar into the lungs than a filtered tobacco cigarette."

Rebuttal I. e. :

1. Tomatoes contain more than 360 chemicals. The number of chemicals contained in a natural substance has nothing to do with whether it is harmful.

2. See Rebuttal I. c. 3. above, which points out that decades of research have failed to show any lung disease produced by marijuana smoking.

DEA Answer to Question I continues:

I. e. Harvard University researchers report that the risk of a heart attack is five times higher than usual in the hour after smoking marijuana.[3]

Rebuttal I. e:

1. The report cited in this "answer" was never published or subjected to peer review. This constitutes preliminary findings. The study authors concluded that further study was needed.[5]

2. The risks of whether or not a person is more likely to experience a heart attack within an hour after smoking marijuana must be weighed by the person and his/her medical professionals against the deleterious effects of other medications which the patient might be forced to use if he/she was not able to use marijuana for medicine. For a patient with Hepatitis C and fibromyalgia, for example, use of prescription medications to alleviate the pain of fibromyalgia would cause life-threatening harm to a liver already comprised by Hepatitis C.

Similarly, risks of possible heart attack must be weighed against the risk of certain harm resulting from lack of access to any effective medication. For a terminal cancer patient, for example, the likelihood of heart attack death is minimal compared to the risk of harm caused by not eating or not sleeping, which can result when a patient cannot swallow prescription drugs and who does not have access to marijuana.

3. Patients and their physicians should be the source of decisions about what relative risks may be acceptable for any given medical situation, not a criminal justice government agency.

DEA Answer to Question I continues:

I. f. "Smoking marijuana also weakens the immune system[4] and raises the risk of lung infections.[5] A Columbia University study found that a control group smoking a single marijuana cigarette every other day for a year had a white-blood-cell count that was 39% lower than normal, thus damaging the immune system and making the user far more susceptible to infection and sickness.[6]

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[3]"Marijuana and Heart Attacks," *Washington Post*, March 3, 2000

[4]I. B. Adams and B.R. Martin, "Cannabis: Pharmacology and Toxicology in Animals and Humans," *Addiction* 91: 1585-1614. 1996.

[5]National Institute of Drug Abuse, "Smoking Any Substance Raises Risk of Lung Infections," NIDA Notes, Vol. 12, No 1, Jan/Feb 1997.

[6]Dr. James Dobson, "Marijuana Can Cause Great Harm," *Washington Times,* Feb 23, 1999.

Rebuttal I. f. :

1. "There is no evidence that marijuana users are more susceptible to infections than nonusers," conclude Lynn Zimmer, PhD and John P. Morgan, MD, in their book *Marijuana Myths, Marijuana Facts* (Lindesmith: New York. 1997). They devote a chapter to claims of immune system damage. Citing over forty studies published in professional journals, Zimmer and Morgan conclude that "scientists have consistently found no difference in the transformation in T-cells from marijuana users and nonusers," and "using other tests of cell-mediated immunity, researchers have also found no consistent difference in the immune responses of cells taken from people who use marijuana and those who do not."

2. Sources cited by the DEA in this section are not scientific studies. For example, citation 6 comes from a newspaper article written by James Dobson, who is not a medical doctor but instead holds a PhD from the University of Southern California where he served 14 years as an associate clinical professor of pediatrics as a child psychologist. Mr. Dobson is founder and president of an evangelical, conservative Christian organization called Focus on the Family. The newspaper article in which Mr. Dobson claims marijuana causes a 39% lower white cell count fails to list a single citation in support of Mr. Dobson's claim.

3. The scientists and medical professionals who conducted the Institute of Medicine study cited at the beginning of this paper addressed the question of immune system effects. They concluded: "Cell culture and animal studies have established cannabinoids as immunomodulators – that is, they increase some immune responses and decrease others. The variable responses depend upon such experimental factors as drug dose, timing of delivery, and type of immune cell examined." It continues: "Many of the effects noted above appear to occur at [high dosage levels] enough to produce strong psychoactive effects," which is beyond the level needed for effective therapeutic benefit sought by patients.

4. Again, it is relevant to remind readers that marijuana used as medicine may replace other drugs which create greater harm than any harm that may be caused by marijuana.

DEA Answer to Question I continues:

I. g. "Users can become dependent on marijuana to the point they must seek treatment to stop abusing it. In 1999, more than 200,000 Americans entered substance abuse treatment primarily for marijuana abuse and dependence."

Rebuttal I. g. :

1. Greater numbers of persons entering treatment for marijuana abuse reflect the new "treatment instead of jail" approach of state governments seeking to reduce prison populations. Persons arrested for minor marijuana offenses are given a choice whether to enter treatment for "substance abuse" or to incur a criminal record while serving jail time. In other words, a significant majority of persons entering treatment were coerced to do so. It is misleading for the DEA to present these statistics as if they represented persons who voluntarily sought treatment for any problem other than the illegality of marijuana.

The false argument put forth in this statement by the DEA causes readers to believe that for some reason, marijuana is more dangerous than previously believed. Without quite saying so, the DEA hopes to convey the message that marijuana poses a threat not previously understood or anticipated. This is not true. Rather, the increase in numbers reflect only the increased hysteria about marijuana promulgated by the DEA and other prohibition interests.

2. Persons using other drugs for medical purposes also enter treatment in increasing numbers, especially anti-depressant drugs like Xanax and pain medications such as Oxycontin mentioned in Rebuttal I. c. above. The by-far greatest number of people entering treatment for substance abuse are people using alcohol.

3. In a free society, it cannot lie within the power of the government to protect people from becoming dependent upon a substance. Presently, government makes no attempt to prevent dependence on alcohol or tobacco, so to make such an attempt with other substances is inconsistent. In fact, if the government's goal is to protect people from becoming dependent, then funds currently expended on prohibition policies could be much more effective if directed toward prevention programs.

DEA Answer to Question I continues:

I. h. "More teens are in treatment for marijuana use than for any other drug or for alcohol. Adolescent admissions to substance abuse facilities for marijuana grew from 43% of all adolescent admissions in 1994 to 60% in 1999."

Rebuttal I.h. :

1. Whether or not teens abuse marijuana is not a reason to prohibit medical use of marijuana for adults. Teens also abuse beer, tobacco, caffeine, and certain pharmaceuticals.

2. Whether or not teens are increasingly entering treatment programs for marijuana has nothing to do with whether patients should be allowed legal access to marijuana for medical use.

3. Federal media campaigns that instill exaggerated fear in parents about marijuana use by their children are a primary reason that parents force adolescents into treatment programs for marijuana use. A self-perpetuating cycle results when the "forbidden fruit" context engendered by extremist prohibition policies result in increasing numbers of young people willing to rebel through drug experimentation, which when caught result in increasing numbers of young people coerced into treatment, which numbers in turn are used to justify increasingly draconian prohibition policies.

4. Aggressive marketing by treatment programs contributes to the increasing use of treatment by parents for teen marijuana use.

5. There is no evidence that marijuana use by young people today is any more damaging to young people than marijuana use by young people in any previous time. Instead, inflated parental

fears and aggressive marketing by the treatment industry, increasing use of drug testing and zero tolerance policies by public schools contribute most directly and predominately to the number of adolescents entering treatment programs.

6. By any available data, marijuana treatment admissions are low compared to admissions for cocaine, opiates, or alcohol. In 1999, there were 1,587,510 patients admitted to state-licensed substance abuse treatment facilities. This included 214,535 (13.5%) whose primary drug problem was with marijuana -- not necessarily marijuana dependence nor even marijuana abuse by the DSM standard. This is just slightly less than the number whose primary problem was with cocaine. The four most common primary drug problems were alcohol (44.3%), opiates (15.9%), cocaine (14.0%) and then marijuana (13.5%).

A majority (57.1%)of these patients with a primary problem with marijuana entered the treatment system, as was suggested, from the criminal justice system. Only 1.5% were referred by an employer or an EAP.

More than one-third (36.5%) were under the age of eighteen. In all, 19.3% were under 18 and were referred by the criminal justice system.

A broader examination showed that criminal justice referrals were more common for persons whose "primary drug problem" was with marijuana, alcohol, PCP, LSD, or amphetamines ($p < 0.01$). It was least common for cocaine, heroin, or non-stimulant prescription drugs ($p < 0.01$); patients with problems with these drugs were the most likely to be self-referrals ($p < 0.01$).[6]

Nonetheless, DEA does not advocate the prohibition of alcohol as a legal intoxicant or the banishment of opiates for medical use.

7. Increasing numbers of teens abusing marijuana is clear evidence that current prohibition policies fail to protect children from substance abuse, a point which DEA, federal policymakers, and vested prohibition interests refuse to acknowledge.

DEA Answer to Question I continues:

I. i. "Marijuana is much stronger now than it was decades ago. According to data from the Potency Monitoring Project at the University of Mississippi, the tetrahydrocannabinol (THC) content of commercial-grade marijuana rose from an average of 3.71 percent in 1985 to an average of 5.57 percent in 1998. The average THC content of U. S. produced sinsemilla increased from 3.2 percent in 1977 to 12.8 percent in 1997.[7]

Rebuttal I. i. :

1. It is misleading for the DEA to claim, on the one hand, that the potential harms of marijuana

[7] 2000 National Drug Control Strategy Annual Report, page 13.

smoke are a primary reason to not allow medical use, while on the other hand complaining that potency has increased. There is no question that greater potency marijuana means less smoking. Patients using sinsemilla marijuana generally require only one or two puffs every four to six hours to achieve effective blood concentration levels.

In fact, virtually every harm the DEA claims is produced by natural marijuana is directly related to the amount of smoke that may be inhaled by patients. Any health risks *not* associated with smoke inhalation are risks natural marijuana shares with the synthetic THC drug, Marinol®.

DEA Question II

Q: Does marijuana have any medical value?

Answer II. a. Any determination of a drug's valid medical use must be based on the best available science undertaken by medical professionals. The Institute of Medicine (IOM) conducted a comprehensive study in 1999 to assess the potential health benefits of marijuana and its constituent cannabinoids. The study concluded that smoking marijuana is not recommended for the treatment of any disease condition. In addition, there are more effective medications currently available. For those reasons, the IOM concluded that there is little future in smoked marijuana as a medically approved medication.[8]

Rebuttal II. a.:

1. DEA abides by a double standard in its supposed acceptance of the "best available science." No scientific evidence supports the DEA's jealous positioning of marijuana as a Schedule I drug. In fact, after an extensive review of all research conducted to date, DEA's own administrative law judge in 1988 ruled that marijuana should be rescheduled to at least Schedule II level to allow for prescriptive use, concluding that marijuana was the "safest therapeutically active substance known to man."[7]

2. At the time marijuana was made illegal by Congressional act in 1937, "medical professionals" argued that allowance should be made for medical use.[8]

3. *Now* they want to talk about the IOM Report**.** In addition to concerns about the use of smoked medications, authors of that report also noted that "There are patients with debilitating symptoms for whom smoked marijuana might provide relief." They further noted that "...for certain patients, such as the terminally ill or those with debilitating symptoms, the long term risks [of smoking] are not of great concern."

4. DEA avoids the primary conclusions of the IOM report when it ignores the IOM call for n-of-1 studies in which an individual doctor could work with a patient who needed to use marijuana.

[8] Marijuana and Medicine: Assessing the Science Base," Institute of Medicine, 1999.

Subsequent to this IOM recommendation, and in keeping with the prohibition proclivities of other agencies of the government including Justice, the U. S. Department of Health and Human Services announced it would not approve any n-of-1 studies and that in fact, it would only permit studies whose announced goal was to introduce and approve a *synthetic pharmaceutical product* derived from the natural chemistry of the marijuana plant. This decision effectively removed any hope that the federal government would allow the development of data in support of medical use of natural marijuana.

5. An agency of the U. S. Department of Justice has no business whatsoever in advocating for the continued prohibition of marijuana for medical use. Medical professionals and the patients themselves should be the ones in control of medical decisions about individual patients.

DEA Answer to Question II continues:

II. b. "Advocates have promoted the use of marijuana to treat medical conditions such as glaucoma. However, this is a good example of more effective medicines already available. According to the Institute of Medicine, there are six classes of drugs and multiple surgical techniques that are available to treat glaucoma that effectively slow the progression of this disease by reducing high intraocular pressure."

Rebuttal II. b. :

1. Nonetheless, a significant population of patients suffering glaucoma do not enjoy success from the use of any of these six classes of drugs nor from the multiple surgical techniques available. Within this population, however, a significant number report success with marijuana in controlling the progression of glaucoma.

2. A significant number of patients are unwilling to risk the possible side effects of available drugs or surgeries, which include blindness.

3. A significant number of patients are unable to afford the cost of prescription drugs or possible surgical interventions for their conditions, but are able to afford the cost of marijuana since marijuana can be produced as inexpensively as home grown tomatoes.

DEA Answer to Question II continues:

II. c. "In other studies, smoked marijuana has been shown to cause a variety of health problems, including cancer, respiratory problems, increased heart rate, loss of motor skills, and increased heart rate. Furthermore, marijuana can affect the immune system by impairing the ability of T-cells to fight off infections, demonstrating that marijuana can do more harm than good in people with already compromised immune systems."[9]

[9]See footnotes in response to question 4 regarding marijuana's short- and long-term health effects

Rebuttal II. c. :

1. Marijuana has never been shown to cause cancer.

2. Respiratory problems caused by marijuana are minimal, certainly no greater than with the use of the legal drug, tobacco, which has no medical value. In fact, studies to date have not shown marijuana to be a causative agent for obstructive lung disease. See Rebuttal I.d.3

3. Increased heart rate and loss of motor skills are no greater with the use of marijuana than they are for Marinol®. In fact, many participants in studies comparing marijuana to Marinol report they prefer marijuana because they become more disoriented with Marinol and because for a significant percentage, Marinol failed to provide relief.[9]

4. Studies have shown that T-cells are not compromised by marijuana. See Rebuttal I. f. on Page 10 of this paper.

5. Dr. Abrams of the University of California at San Francisco was repeatedly refused permission by the DEA to study marijuana's potential benefit as an appetite stimulant for HIV/AIDS patients. Only after he changed his study's objective to a study that would seek to find harm caused by marijuana was his proposal approved.

Subsequently, in 2000, Dr. Abrams reported that even HIV/AIDS patients with extremely compromised immune systems did not suffer any harm from the use of marijuana and in fact performed better than the control group in weight gain.

DEA Answer to Question II continues:

II. d. " In addition, in a recent study by the Mayo Clinic, THC was shown to be less effective than standard treatments in helping cancer patients regain lost appetites."[10]

Rebuttal II. d. :

1. Due to manipulative language, a reader might conclude that this particular study is somehow more compelling than the much greater number of studies showing just the opposite. In fact, a significant majority of studies show that marijuana is more effective than other treatments.

2. The key to this effectively manipulative statement by the DEA is its reference to THC. Synthetic THC was used in this study, not natural marijuana. A majority of studies show that patients do not receive the same relief from THC as they do from natural marijuana. Therefore, there is no valid correlation between this study's results and the potential therapeutic benefits of natural marijuana.

[10] "Marijuana Appetite Boost Lacking in Cancer Study," *The New York Times*, May 13, 2001.

DEA Answer to Question II continues:

II. e. "The American Medical Association recommends that marijuana remain a Schedule I controlled substance."

Rebuttal II. e. :

1**.** The American Medical Association (AMA) recommended in 1977 that marijuana use incur no criminal penalty. They have never rescinded this position.

2. Currently, the AMA supports additional study into medical use.

3. Other recognized health professional organizations support medical use of marijuana. The American Public Health Association, a group of over 1,100,000 health care professionals, recommended in 1995 that oversight of marijuana regulation be transferred from law enforcement to health care jurisdiction. A list of other supporting organizations is available online at www.medicalcannabis.com

DEA Answer to Question II continues:

II. f. "The DEA supports research into the safety and efficacy of THC (the major psychoactive component of marijuana) and such studies are ongoing, supported by grants from the National Institute on Drug Abuse."

Rebuttal II. f. :

1. Studies conducted on the safety and efficacy of THC have nothing to do with studies which might show the potential medical benefit of natural marijuana. To infer that they do, as the DEA infers in this statement, is misleading.

2. Studies into the safety and efficacy of THC have previously been performed in conjunction with the approval of Marinol® as a Schedule II drug, as fact with which the DEA is quite familiar.

3. Language included in this statement is misleading to the average reader who has no way of knowing that such studies and grants are not available for studies into the safety and efficacy of natural marijuana for use as medicine.

DEA Answer to Question II continues:

II. g. "As a result of such research, a synthetic THC drug, Marinol, has been available to the public since 1985. The Food and Drug Administration has determined that Marinol is safe, effective, and has therapeutic benefits for use as a treatment for nausea and

vomiting associated with cancer chemotherapy, and as a treatment of weight loss in patients with AIDS. However, it does not produce the harmful effects associated with smoking marijuana."

Rebuttal II. g. :

1. DEA misleads readers by stating that "Marinol does not produce the harmful effects ... etc." As noted in Rebuttal I.a., potential adverse effects cited for Marinol are identical to the "harmful effects" listed for marijuana, with the exception of potential respiratory effects. However, in a review of potential respiratory effects, researchers have found that marijuana has not been shown to cause lung cancer or emphysema. See Rebuttal I. c.

2. DEA misleads readers by insinuating that Marinol is equally effective as marijuana for patients suffering nausea and vomiting. In studies, only about one-third of patients report Marinol as preferable to marijuana. In a study of oncologists familiar with both marijuana and Marinol, only 13% felt Marinol was better, while 43% judged marijuana and Marinol equal and 44% found marijuana to be better.[10]

3. DEA fails to acknowledge the benefits conferred by a medication that can be smoked. Many patients with nausea and vomiting and/or other digestive disorders associated with weight loss cannot successfully swallow and hold down oral medication. The inhalation of smoke and the immediate achievement of effective dosage levels are two critical and unique features of marijuana as medicine.

DEA Answer to Question II continues:

II. h. "Furthermore, the DEA recently approved the University of California San Diego to undertake rigorous scientific studies to assess the safety and efficacy of cannabis compounds for treating certain debilitating medical conditions."

Rebuttal II. h. :

1. Cannabis provided for this research is not a good quality grade of marijuana, but rather a low THC product that causes study participants to ingest large quantities of harsh smoke in order to approach therapeutic dosage levels. By refusing to produce high THC sinsemilla at the federal marijuana farm or to allow researchers to obtain high THC marijuana from other sources, DEA pre-ordains that study participants will suffer the greatest possible harm (from smoke) with the least beneficial effects.

DEA Answer to Question II continues:

II. i. "It's also important to realize that the campaign to allow marijuana to be used as medicine is a tactical maneuver in an overall strategy to completely legalize all drugs. Pro-legalization groups have transformed the debate from decriminalizing drug use to

one of compassion and care for people with serious diseases. The New York Times interviewed Ethan Nadelmann, Director of the Lindesmith Center in January 2000. Responding to criticism from former Drug Czar Barry McCaffrey that the medical marijuana issue is a stalking horse for drug legalization, Mr. Nadelmann did not contradict General McCaffrey. "Will it help lead toward marijuana legalization?" Mr. Nadelmann said: "I hope so."

Rebuttal II. i. :

1. Whether some supporters of medical marijuana reform also support marijuana decriminalization is not germane to the issue of medical marijuana. The salient points supporting legal medical use of marijuana stand on their own merits.

2. The availability of legal prescription drugs such as Valium is not a stalking horse for making them available on every supermarket's shelves.

3. The role of the DEA is to enforce current law, not to take a position on reform efforts initiated by citizens of the United States. It is illegal for the DEA to advocate on citizen initiatives.

DEA Question III:

"Does marijuana harm anyone besides the individual who smokes it?"

III. a. "Consider the public safety of others when confronted with intoxicated drug users: Marijuana affects many skills required for safe driving: alertness, the ability to concentrate, coordination, and reaction time. These effects can last up to 24 hours after smoking marijuana. Marijuana use can make it difficult to judge distances and react to signals and signs on the road." [11]

Rebuttal III. a. :

1. A significant number of prescribed medications include instructions that the drugs may cause drowsiness and loss of coordination. Patients are advised to not drive or operate machinery while using the drug. There is no reason that marijuana should be held to a different standard.

2. Marinol®, which DEA puts forth as a suitable alternative for marijuana, produces the same if not greater impairment in users.

3. Proponents of law reform allowing medical use of marijuana include in the language of their proposed laws a provision barring medical marijuana users from driving while under the influence of marijuana. Persons violating the provisions of these laws would be prosecuted under the same regulations that bar any driving from operating a vehicle while impaired by a

[11] Marijuana: Facts Parents Need to Know, National Institute of Drug Abuse, National Institutes of Health

prescription drug or alcohol.

DEA Answer to Question III continues:

III. b. "In a 1990 report, the National Transportation Safety Board studied 182 fatal truck accidents. It found that just as many of the accidents were caused by drivers using marijuana as were caused by alcohol – 12.5 percent in each case."

Rebuttal III. b. :

1. The record of truck accidents has absolutely nothing to do with marijuana's use as medicine. This is a red herring introduced by the DEA to instill fear in readers.

2. Subsequent to this 1990 study cited by the DEA, a March 2002 study by Transportation Research Laboratory in Crowthrone, England, indicated that drivers using marijuana were aware of their impaired state and drove cautiously to compensate.

DEA Answer to Question III continues:

III. c. "Consider also that drug use, including marijuana, contributes to crime. A large percentage of those arrested crimes test positive for marijuana. Nationwide, 40% of adult males tested positive for marijuana at the time of their arrest."

Rebuttal III. c. :

1. The use of marijuana does not bear any causal relationship to whether a person is more or less likely to commit a crime. No doubt the same or greater percentage of adult males would have tested positive for caffeine, but DEA does not leap to the conclusion that caffeine is the cause of their criminal activity.

2. A positive drug test for marijuana is not an accurate measure of whether the person is under any psychoactive influence from the use of marijuana. The human body metabolizes marijuana in a complex way over a period of time. While the intoxication which may occur with marijuana use lasts from one to four hours, a breakdown of metabolites within the body may occur over a week up to three weeks. During the time these trace chemicals remain in the body, drug tests show the presence of marijuana metabolites. However, no one including the DEA can argue that the presence of marijuana metabolites exerts any psychoactive effect whatsoever. Therefore, a positive urine test for marijuana has no relationship to whether the person was involved in criminal activity as a result of being intoxicated on marijuana.

3. The data cited in this "answer" by the DEA does not show the type of crime involved. Based on huge number of marijuana possession arrests, the cited number of arrests involving marijuana use may reflect nothing more than the "crime" of marijuana possession. The DEA wishes the

reader to infer that the crime involved was crime against a person or property so as to instill fear in readers that persons using marijuana are predatory, violent criminals.

In fact, a recent study revealed that alcohol was by far the most used "drug" at the time a violent crime was committed. According to the National Center on Addiction and Substance Abuse at Columbia University (CASA), "marijuana alone plays no statistically significant role in influencing one to commit a violent crime." Primary drugs of violent crime were alcohol in 84% of cases, cocaine in 12%, and heroin in 4%. (January 8, 1998 New York)

DEA Question IV:

Q: "Is marijuana a gateway drug?"

A: IV. a. "Yes. Among marijuana's most harmful consequences is its role in leading to the use of other drugs like heroin and cocaine. Long-term studies of students who use drugs show that very few young people use other illegal drugs without first trying marijuana. While not all people who use marijuana go on to use other drugs, using marijuana sometimes lowers inhibitions about drug use and exposes users to a culture that encourages use of other drugs."

Rebuttal IV. a. :

1. No, marijuana is not a gateway drug. This outdated theory was most recently debunked by the scientists and doctors participating in the 1999 Institute of Medicine study. They stated:

> Patterns in progression of drug use from adolescence to adulthood are strikingly regular. Because it is the most widely used illicit drug, marijuana is predictably the first illicit drug most people encounter. Not surprisingly, most users of other illicit drugs have used marijuana first. In fact, most drug users begin with alcohol and nicotine before marijuana -- usually before they are of legal age.
>
> In the sense that marijuana use typically precedes rather than follows initiation of other illicit drug use, it is indeed a "gateway" drug. But because underage smoking and alcohol use typically precede marijuana use, marijuana is not the most common, and is rarely the first, "gateway" to illicit drug use. There is no conclusive evidence that the drug effects of marijuana are causally linked to the subsequent abuse of other illicit drugs. An important caution is that data on drug use progression cannot be assumed to apply to the use of drugs for medical purposes. It does not follow from those data that if marijuana were available by prescription for medical use, the pattern of drug use would remain the same as seen in illicit use.

2. The World Health Organization noted the effects of prohibition in its March 1998 study, when it stated that "exposure to other drugs when purchasing cannabis [marijuana] on the black market, increases the opportunity to use other illicit drugs."[11] Patients obtaining marijuana from legitimate sources would not be exposed to other illicit drugs.

3. DEA fails to provide a comparison of possible gateway effects created by prescription drugs. How many prescription drugs "lower inhibitions about drug use and expose users to a culture that encourages use of other drugs"? How many prescription drug users go on to abuse the prescribed drug and/or other legal or illegal drugs? Does such abuse of prescription drugs justify the prohibition of these drugs? How many young people are prescribed Ritalin and then go on to either abuse Ritalin or to seek other mind altering substances? A report released by the Associated Press September 19, 2002, states: "Children are spending 34% more time on medication than they were five years ago. ... Prescriptions for Ritalin and other medicines for neurological and psychological disorders were substantial – a finding that renewed concern among some experts who worry that such drugs may be over-prescribed."

4. DEA provides no data in support of its gateway claim.

DEA Answer to Question IV continues:

IV. b. "The risk of using cocaine has been estimated to be more than 104 times greater for those who have tried marijuana than for those who have never tried it."[12]

Rebuttal IV. b. :

1. According to a 2001 study published in the *American Journal of Public Health*, "[Serious drug users] were more likely to have used marijuana before using alcohol, and more likely to have used other illicit drugs before using marijuana." Also, "These findings suggest that for a large number of serious drug users, marijuana does not play the role of a gateway drug. We conclude that prevention efforts which focus on alcohol and marijuana may be of limited effectiveness for youth who are at risk for serious drug abuse."[12] DEA's argument leads readers to the conclusion that any risk for substance abuse escalates statistically as individuals increase the number of drugs used. This does not reflect any inherent qualities of the drugs themselves, but rather reflects the peculiar nature of a relatively small subset (less than 10%) of the population who begin to use intoxicants at an early age and ultimately abuse one or more substances.

2. Over 72 million people have used marijuana. Yet for every 120 marijuana users, there is only one active, regular user of cocaine.[13] Obviously marijuana does not lead to the use of harder drugs, or there would be a one-to-one correlation.

3. A similarly flawed argument by the DEA might state: "The risk of using cocaine has been estimated to be more than 104 times higher for those who have tried milk than for those who have never tried it." According to CASA (National Center on Addiction and Substance Abuse, Columbia Univ. NY), there is no proof that a causal relationship exists between cigarettes, alcohol, marijuana, and other drugs. Basic scientific and clinical research establishing causality does not exist.[14]

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[12] *Marijuana: Facts Parents Need to Know*, National Institute on Drug Abuse, NIH

In Conclusion:

DEA makes the following summary conclusions:

a. Marijuana is a dangerous, addictive drug that poses significant health threats to users.

b. Marijuana has no medical value that can't be met more effectively by legal drugs.

c. Marijuana users are far more likely to use other drugs like cocaine and heroin than non-marijuana users.

d. Drug legalizers use "medical marijuana" as red herring in effort to advocate broader legalization of drug use.

We make the following summary conclusions:

a. DEA has not presented facts supporting its claim that marijuana is addictive or dangerous. Most specifically, DEA has not shown that marijuana is as dangerous or addictive as many pharmaceutical products currently on the market and used for ailments also treated by marijuana.

b. DEA has failed to show that marijuana has no medical value. In fact, DEA's conclusion "b." above directly contradicts the conclusions reached by the scientists and physicians who conducted the National Academy of Sciences Institute of Medicine report.

c. DEA's claim that marijuana leads to the use of cocaine or heroin is not supported by any data or scientific study. In fact, the National Center on Addiction and Substance Abuse has concluded that there is no proof that a causal relationship exists between cigarettes, alcohol, marijuana, and other drugs.

d. Whether medical marijuana supporters also support general drug policy reform is a separate issue from the question of whether patients should have legal access to marijuana as medicine. The use of a "red herring" argument by the DEA in opposing medical marijuana is in itself a red herring.

Rebuttal Footnotes:

1. Russo, Dr. Ethan, in personal email communication to Denele Campbell Sept 16, 2002. Citations include www.ncbi.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11036260&dopt=Abs and those in text

2. Tashkin, D.P. et al "Effects of Habitual Use of Marijuana and/or Cocaine on the Lung," pp. 63-87 in Chaing, N., and Hawkins, R.L. (eds), *Research Findings on Smoking of Abused Substances,* Rockville, MD: National Institute on Drug Abuse (1990); Sherrill, D.L. et al, "Respiratory Effects of Non-Tobacco Cigarettes: A Longitudinal Study in the General Population," *International Journal of Epidemiology* 20: 132-37 (1991).

3. Polen, M.R., "Health Care Use by Frequent Marijuana Smokers Who Do Not Smoke Tobacco," *Western Journal of Medicine* 158: 596-601 (1993).

4. Tashkin, D.P., "Heavy Habitual Marijuana Smoking Does Not Cause an Accelerated Decline in FEV1 With Age," *American Journal of Respiratory and Critical Care Medicine* 155: 141-48 (1997).

5. "Mittleman M.A. et al "Triggering of myocardial infarction by marijuana." *Circulation* 2000: 101(6): 713.

6. David F. Duncan, DrPH, CAS, FAAHB, President, Duncan & Associates; Clinical Associate Professor; Brown University Medical School; email August 25, 2002.

7. See Young above.

8. Testimony of American Medical Association representative, U. S. Congress, 1937.

9. Mattes, R.D. et al, "Bypassing the First-Pass Effect for the Therapeutic Use of Cannabinoids," *Pharmacology Biochemistry and Behavior* 44: 745-47 (1993).

10. R. Doblin and M.A.R. Kleiman, "Marijuana as an Anti-Emitic Medicine: A Survey of Oncologists' Attitudes and Experiences," *Journal of Clinical Oncology* 19: 1275-1290 (1991)

11.Hall, W., Room, R., & Bondy., WHO Project on Health Implications of Cannabis Use: A Comparative Appraisal of the Health and Psychological Consequences of Alcohol, Cannabis, Nicotine, and Opiate Use, August 28, 1995 (Geneva, Switzerland: World Health Organization, March 1998).

12. Sexton, Barry, et al *New Scientist,* United Kingdom. 2002: March 20.

13. Substance Abuse and Mental Health Services Administration, US Dept of Health and Human Services, National Household Survey on Drug Abuse: Population Estimates 1998 (Washington DC: US Dept of HHS, 1999), pp 19, 25, 31

14.Merrill, J. C. & Fox., K. S., *Cigarettes, Alcohol, Marijuana: Gateways to Illicit Drug Use, Introduction* (New York, NY: National Center of Addiction and Substance Abuse at Columbia University, October 1994).