Is Marijuana Medicine?

Testimony on SB155

Kansas State Legislature

By

Smart Approaches to Marijuana (SAM)

www.learnaboutsam.org

This testimony today is based on the expertise of over a dozen top scientists who serve on the Advisory Board of SAM – Smart Approaches to Marijuana. SAM is the leading, non-partisan national organization offering a science-based approach to marijuana legalization in the nation, founded by former Congressman Patrick Kennedy, senior editor of The Atlantic David Frum, and former White House advisor Dr. Kevin Sabet.

The debate surrounding marijuana as medicine is riddled with half-truths, anecdotes, and empty promises. And SB155 presents some major public health and safety problems. It would allow one person to possess 360 joints for purported "medical" reasons. It is also one of the most poorly written initiatives for businesses in the country since it would not allow employers to enforce drug-free workplace laws.

It is the conclusion of almost every review of the science that smoked, crude marijuana is not a medicine, even though its isolated components have shown promise medically. For example, modern science has synthesized the marijuana plant's primary psychoactive ingredient – THC – into a pill form. This pill, dronabinol (or Marinol®, its trade name) is sometimes prescribed for nausea and appetite stimulation. Another drug, Cesamet, mimics chemical structures that naturally occur in the plant. But when most people think of medical marijuana these days, they don't think of a pill with an isolated component of marijuana, but rather the smoked, vaporized or edible version of the whole marijuana plant.

Rather than isolate active ingredients in the plant – as we do with the opium plant when we create morphine, for example – many legalization proponents advocate vehemently for smoked (or vaporized) marijuana to be used as a medicine. But the science on smoking any drug is clear: smoking — especially highly-potent whole

marijuana — is not a proper delivery method, nor do other delivery methods ensure a reliable dose. And while parts of the marijuana plant have medical value, the Institute of Medicine said in its landmark 1999 report: "Scientific data indicate the potential therapeutic value of cannabinoid drugs … smoked marijuana, however, is a crude THC delivery system that also delivers harmful substances … and should not be generally recommended…"[1]

A more recent IOM report from 2017 concluded that there was insufficient evidence for marijuana as a medicine as it pertained to dementia, glaucoma, chronic pain-associated depression, cancer, irritable bowel syndrome, amyotrophic lateral sclerosis, epilepsy, and chorea. There was evidence for derivatives of marijuana to be used for nausea, multiple sclerosis, and chronic pain, but the IOM did **not** recommend smoking marijuana for these conditions.

Similarly, derivatives of marijuana are already passing through the rigorous FDA approval process and may be available for use soon. Sativex®, an oral mouth spray developed from a blend of two marijuana extracts (one strain is high in THC and the other in CBD, which counteracts THC's psychoactive effect), has already been approved in dozens of countries and is in late stages of approval in the U.S. Epidiolex® is another medication where a compound taken from the marijuana plant has shown tremendous promise for young people with seizure disorders and should be on the market later this year.

In contrast, "whole plant" marijuana itself is not an approved medicine under the U.S. Food and Drug Administration's (FDA) scientific review process. The FDA process for approving medicine remains the only scientific and legally recognized procedure for bringing safe and effective medications to the American public. To date, the FDA has not found smoked marijuana to be either safe or effective medicine for any condition.

That is likely why no major medical association has come out in favor of smoked marijuana for widespread medical use. Further, major public health organizations, have weighed in strongly against the concept:

American Society of Addiction Medicine:

> "ASAM asserts that cannabis, cannabis-based products, and cannabis delivery devices should be subject to the same standards that are applicable

[1] 1 Marijuana and Medicine: Assessing the Science Base, Institute of Medicine 1999. http://books.nap.edu/catalog.php?record_id=6376 2

to other prescription medications and medical devices and that these products should not be distributed or otherwise provided to patients unless and until such products or devices have received marketing approval from the Food and Drug Administration. ASAM rejects smoking as a means of drug delivery since it is not safe. ASAM rejects a process whereby State and local ballot initiatives or legislative efforts approve medicines because these initiatives are being decided by individuals not qualified to make such decisions."[2]

American Cancer Society:

"The ACS is supportive of more research into the benefits of cannabinoids. Better and more effective treatments are needed to overcome the side effects of cancer and its treatment. The ACS does not advocate the use of inhaled marijuana or the legalization of marijuana."[3]

American Glaucoma Foundation:

"Marijuana, or its components administered systemically, cannot be recommended without a long-term trial which evaluates the health of the optic nerve," said the editorial. "Although marijuana can lower IOP, its side effects and short duration of action, coupled with a lack of evidence that its use alters the course of glaucoma, preclude recommending this drug in any form for the treatment of glaucoma at the present time."[4]

National Multiple Sclerosis Society:

"Although it is clear that cannabinoids have potential both for the management of MS symptoms such as pain and spasticity, as well as for neuroprotection, the Society cannot at this time recommend that medical marijuana be made widely available to people with MS for symptom management. This decision was not only based on existing legal barriers to its use but, even more importantly, because studies to date do not demonstrate a clear benefit compared to existing

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[2] ASAM Public Polict Statement on Marijuana, Found at: http://www.asam.org/docs/default-source/public-policy-statements/1medical-marijuana-4-10.pdf?sfvrsn=0

[3] Medical Use of Marijuana: ACS Position, Found at: http://medicalmarijuana.procon.org/sourcefiles/american-cancer-society-position.pdf

[4] Marijuana for Glaucoma: Patients Beware! Found at: https://www.glaucomafoundation.org/news_detail.php?id=161

symptomatic therapies and because issues of side effects, systemic effects, and long-term effects are not yet clear."[5] American Academy of Pediatrics (AAP):

> "Any change in the legal status of marijuana, even if limited to adults, could affect the prevalence of use among adolescents." While it supports scientific research on the possible medical use of cannabinoids as opposed to smoked marijuana, it opposes the legalization of marijuana.[6]

American Medical Association (AMA):

> The AMA calls for more research on the subject, but indicates that such a call "should not be viewed as an endorsement of state-based medical cannabis programs, the legalization of marijuana, or that scientific evidence on the therapeutic use of cannabis meets the current standards for a prescription drug product."[7]

John Knight, director of the Center for Adolescent Substance Abuse Research at Children's Hospital Boston:

> "Marijuana has gotten a free ride of sorts among the general public, who view it as non-addictive and less impairing than other drugs. However, medical science tells a different story."

Christian Thurstone, a board-certified Child and Adolescent Psychiatrist, an Addiction Psychiatrist, and an Assistant Professor of Psychiatry at the University of Colorado:

> "In the absence of credible data, this debate is being dominated by bad science and misinformation from people interested in using medical marijuana as a step to legalization for recreational use. Bypassing the FDA's well-established approval process has created a mess that especially affects children and adolescents. Young people, who are clearly being targeted with medical marijuana advertising and diversion, are most vulnerable to developing marijuana addiction and suffering from its lasting effects."

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[5] Recommendations Regarding the Use of Cannabis in Multiple Sclerosis: Executive Summary. National Clinical Advisory Board of the National Multiple Sclerosis Society, Expert Opinion Paper, Treatment Recommendations for Physicians, April 2, 2008.http://www.nationalmssociety.org.

[6] Committee on Substance Abuse and Committee on Adolescence. "Legalization of Marijuana: Potential Impact on Youth." Pediatrics Vol. 113, No. 6 (June 6, 2004): 1825-1826. See also, Joffe, Alain, MD, MPH, and Yancy, Samuel, MD. "Legalization of Marijuana: Potential Impact on Youth." Pediatrics Vol. 113, No. 6 (June 6, 2004): e632-e638h.

[7] AMA Policy, Found at: http://medicalmarijuana.procon.org/sourcefiles/AMA09policy.pdf

SB155 poses some very serious threats to public safety and creates cartel-like amounts for every person who obtains a card in the state. According to marijuana-friendly publications, one ounce of marijuana is equal to approximately 60 joints on average (based on joint size and potency). This proposal would allow six ounces, or 360 joints per person. The language goes on to state that an additional 12 plants would be allowable under this medical law. A marijuana plant can yield between 1-3 pounds of usable marijuana per plants. If taking an average of two pounds (or 32 ounces) of usable marijuana per plant and multiplying that by 12 plants, the person would legally be allowed to possess 23,040 joints or **enough marijuana to keep one person high (smoked every 6 hours) for 5,760 days or over 15 years.** This will contribute drastically to the Kansas black market and put a burden on law enforcement.

Businesses will also suffer with the employment "discrimination" language inserted into this bill. An employer would not be allowed to "discriminate" or "terminate" an employee, unless the person is impaired on the job. The issue lies with the fact that there is no way to measure impairment for marijuana. Therefore, an employer who protects his/her business and employees with a drug-free workplace policy, would not be able to enforce that policy.

Also, the statistics are telling about other states who have instituted "medical" marijuana user:[8]

- The average user in California was a 32-year old white male with a history of alcohol and substance abuse and no history of life-threatening illness.
- In Colorado, according to the Department of Health, only two percent of users reported cancer, and less than one percent reported HIV/AIDS as their reason for marijuana. The vast majority (94 percent) reported "severe pain."
- In Oregon, 21 physicians account for three-quarters of all applications for "medical" marijuana.

How does medical marijuana currently work in the various states? At present in California, and in several other states, it is widely recognized that the reality of the "medical use" of marijuana is highly questionable. For payment of a small cash sum, almost anyone can obtain a physician's "recommendation" to purchase, possess, and use marijuana for alleged medical purposes. Both sides of the

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[8] Sabet, K. and Grossman, E. "Why do people use medical marijuana?" Journal of Global Drug Policy and Practice. http://www.globaldrugpolicy.org/Issues/Vol%208%20Issue%202/Why%20Do%20People%20Use%20Medical%20Marijuana.pdf

argument agree that this system has essentially legalized marijuana for recreational use, at least amongst those individuals able and willing to buy a recommendation.

States with medical marijuana laws also show much higher average marijuana use by adolescents, and lower perceptions of risk from use, than non-medical pot states. This would seem to indicate that relaxed community norms about drug use contribute greatly to an increased prevalence of use and users, a situation resulting from the spread of an attitude that "if pot is medicine and is sanctioned by the state, then it must be safe to use by anyone." Such medical programs should only be about bringing relief to the sick and dying, and it should be done in a responsible manner that formulates the active components of the drug in a non-smoked form that delivers a defined dose. However, in most states with medical marijuana laws, it has primarily become a license for the state-sanctioned use of a drug by most anyone who desires it. Developing marijuana-based medications through the FDA process is more likely to ensure that seriously ill patients, who are being supervised by their actual treating physicians, have access to safe and reliable products.

Despite rhetoric from the industry to the contrary, marijuana use is harmful. It is a complex plant with hundreds of constituents; inhaled, on average it contains 14% THC and virtually no CBD. Using today's high THC marijuana, especially for young people, is significantly associated with a reduction in IQ[9], mental illness[10], poor learning outcomes[11], lung damage[12], and addiction.[13] According to the

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9 See Meier, M.H.; Caspi, A.; Ambler, A.; Harrington, H.; Houts, R.; Keefe, R.S.E.; McDonald, K.; Ward, A.; Poulton, R.; and Moffitt, T. Persistent cannabis users show neuropsychological decline from childhood to midlife.*Proceedings of the National Academy of Sciences* 109(40):E2657–E2664, 2012. Also Moffitt, T.E.; Meier, M.H.; Caspi, A.; and Poulton, R. Reply to Rogeberg and Daly: No evidence that socioeconomic status or personality differences confound the association between cannabis use and IQ decline. *Proceeding of the National Academy of Sciences* 110(11):E980-E982, 2013.

10 See for example: Andréasson S., et al. (1987). Cannabis and Schizophreia: A longitudinal study of Swedish conscripts. *Lancet, 2*(8574); Moore, T.H., et al. (2007). Cannabis use and risk of psychotic or affective mental health outcomes: a systematic review. *Lancet, 370*(9584); Large M., et al. (2011). Cannabis Use and Earlier Onset of Psychosis: A Systematic Meta-analysis. *Archives of General Psychiatry, 68*(6); Harley, M., et al. (2010). Cannabis use and childhood trauma interact additively to increase risk of psychotic symptoms in adolescences. *Psychological Medicine, 40*(10); Lynch, M.J., et al. (2012). The Cannabis-Psychosis Link. *Psychiatric Times.*

11 Yucel, M., et al. (2008). Regional brain abnormalities associated with long-term heavy cannabis use. *Archives of General Psychiatry, 65*(6).

12 See for example: American Lung Association. (2012, November 27). Health Hazards of Smoking Marijuana. Retrieved from: http://www.lung.org/stop-smoking/about-smoking/health-effects/marijuana-smoke.html; Tashkin, D.P., et al. (2002). Respiratory and immunologic consequences of smoking marijuana. *Journal of Clinical Pharmacology, 4*(11); Moore, B.A., et al. (2005). Respiratory effects of marijuana and tobacco use in a U.S. sample. *Journal of General Internal Medicine, 20*(1); Tetrault, J.M., et al. (2007). Effects of marijuana smoking on pulmonary structure, function and symptoms. *Thorax, 62*(12); Tan, W.C., et al. (2009). Marijuana and chronic obstructive lung disease.

13 See for example: Anthony, J.C., Warner, L.A., Kessler, R.C. (1994). Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey.

National Institutes of Health, one out of every six adolescents who use marijuana will become addicted[14], and many more will develop some problems as a result of marijuana use. There are about 400,000 emergency room admissions for marijuana every year – related to acute panic attacks and psychotic episodes[15] – and marijuana is the most cited drug for teens entering treatment.[16] The heavy use of marijuana has increased rapidly in the last decade; and it's estimated that the market for marijuana has quadrupled since 1990 ($10B to $40B) while the cocaine market has been cut by half ($30B to $15B) during that same period of time.[17]

While we all have compassion for the sick and dying, SB155 is a dangerous piece of legislation. It is a ruse for the recreational use of marijuana.

Experiential and Clinical Psychopharmacology, 2; Budney, A.J., et al. (2008). Comparison of cannabis and tobacco withdrawal: Severity and contributions to relapse. *Journal of Substance Abuse Treatment, 35*(4); Tanda, G., et al. (2003). Cannabinoids: Reward, dependence, and underlying neurochemical mechanisms – A recent preclinical data. *Psychoparmacology, 169*(2).

[14] Anthony, J.C., Warner, L.A., Kessler, R.C. (1994). Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: Basic findings from the National Comorbidity Survey. *Experiential and Clinical Psychopharmacology, 2.*

[15] Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. (2011). Drug abuse warning network, 2008: National estimates of drug-related emergency department visits. *HHS Publication* No. SMA 11-4618. Rockville, MD.

[16] Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. Treatment Episode Data Set (TEDS): 2000-2010. National Admissions to Substance Abuse Treatment Services. DASIS Series S-61, HHS Publication No. (SMA) 12-4701. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012

[17] Kilmer et al. (2014). "How big is the US market for illegal drugs?" RAND Report. Found here http://www.rand.org/pubs/research_briefs/RB9770.html