Louisville Metro Council Public Safety Committee

The societal impact of cannabis prohibition and cannabis regulation

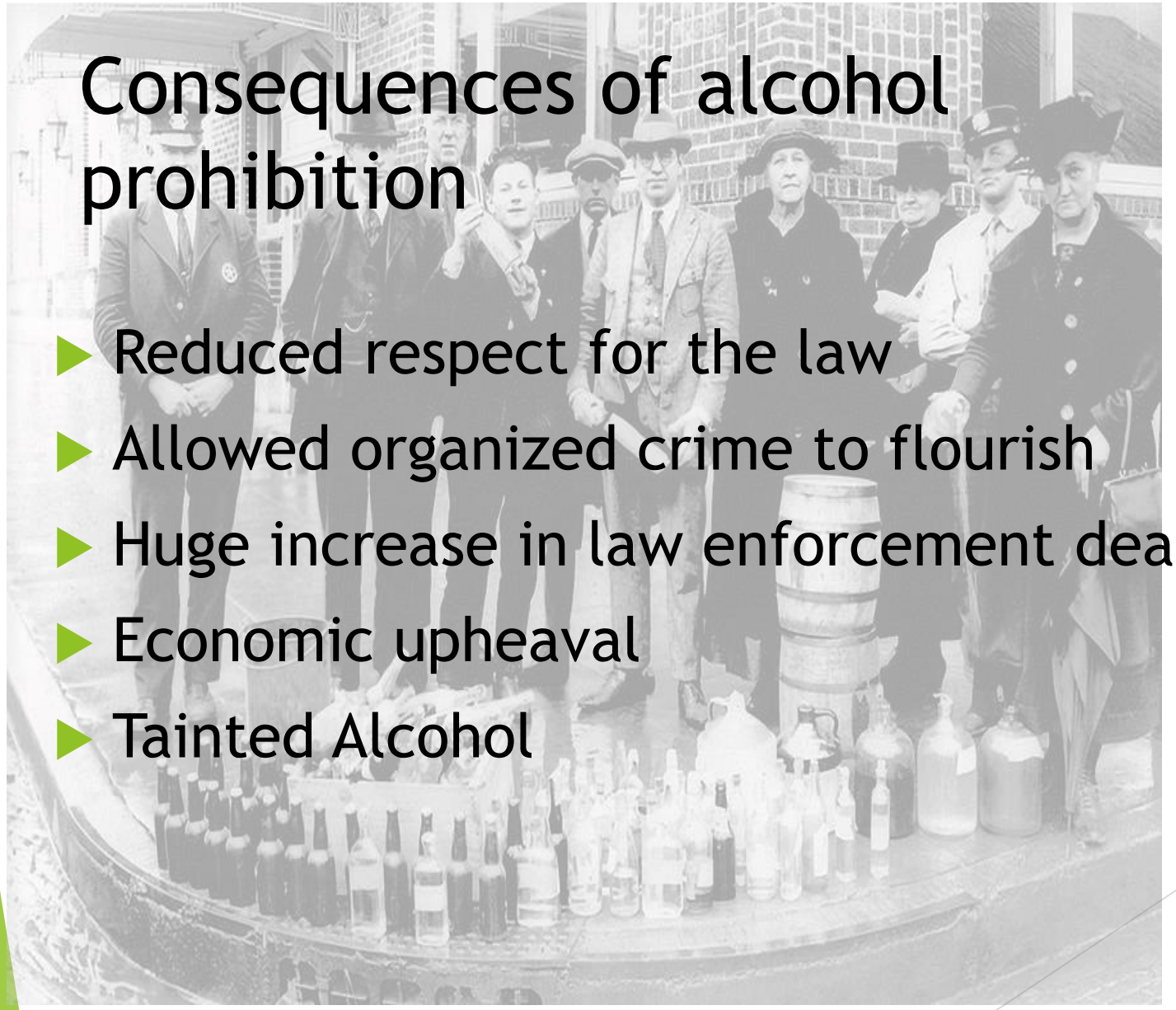
The Iron Law of Prohibition

- Prohibiting drugs ALWAYS results in stronger, more dangerous drug use and more violence in the streets
- Regulating drugs ALWAYS results in weaker, safer drugs and less violence in the streets

Types of Prohibition

- Criminal Penalties
- Eradication/Interdiction
- Drug Testing
- Prescription Monitoring

Consequences of alcohol prohibition



- Reduced respect for the law
- Allowed organized crime to flourish
- Huge increase in law enforcement deaths
- Economic upheaval
- Tainted Alcohol

Dr. Gupta, I Was Misled

"We have been terribly and systematically misled for nearly 70 years in the United States"

Marihuana, A Signal of Misunderstanding

IV. Therapeutic Uses

RECOMMENDATION: INCREASED SUPPORT OF STUDIES WHICH EVALUATE THE EFFICACY OF MARIHIUANA TN THE TREATMENT OF PHYSICAL IMPAIRMENTS AND DISEASE IS RECOMMENDED.

Historical references have been noted throughout the literature referring to the use of cannabis products as therapeutically useful agents. Of particular significance for current research with controlled quality, quantity and therapeutic settings, would be investigations into the treatment of glaucoma, migraine, alcoholism and cancer research.

The NIMII-FDA Psychotomimetic Advisory Committee's authorization of studies designed to explore the therapeutic uses of marihuana is commended.

V. Community-Based Treatment

RECOMMENDATION: COMMUNITY-BASED TREATMENT FACILITIES SHOULD BE PROMOTED IN CARlNG FOR PROBLEM DRUG USERS UTILIZING EXISTING HEALTH CENTERS WHEN POSSIBLE AND APPROPRIATE.

In studying marihuana, the Commission has obtained information about a number of treatment centers and services. The wide range of agencies and the variety of goals and techniques present a confusing array of services available to drug users, varying widely in their effectiveness. Uniform criteria for evaluating the "success" of these programs is urgently needed.

The medical members of the Commission believe that some of the techniques being used may pose as much potential harm as good. Many young people who are experiencing profound difficulties resulting from the use of drugs may suppose they are being treated and helped, when in reality they are not. In some cases, the short-term benefit may be disruptive to the long-term welfare of the individual. In the rush to provide treatment facilities, many programs have been given impressive credentials without meeting minimal medical standards.

The federal government misled us

Reality

The Solution

Clinical Endo-Cannabinoid Deficiency (CECD)

Can this Concept Explain Therapeutic Benefits of Cannabis in Migraine, Fibromyalgia, Irritable Bowel Syndrome and other Treatment-Resistant Conditions?

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Abstract

OBJECTIVES: This study examines the concept of clinical endocannabinoid deficiency (CECD), and the prospect that it could underlie the pathophysiology of migraine, fibromyalgia, irritable bowel syndrome, and other functional conditions alleviated by clinical cannabis.

METHODS: Available literature was reviewed, and literature searches pursued via the National Library of Medicine database and other resources.

RESULTS: Migraine has numerous relationships to endocannabinoid function. Anandamide (AEA) potentiates 5-HT1A and inhibits 5-HT2A receptors supporting therapeutic efficacy in acute and preventive migraine treatment. Cannabinoids also demonstrate dopamine-blocking and anti-inflammatory effects. AEA is tonically active in the periaqueductal gray matter, a migraine generator. THC modulates glutamatergic neurotransmission via NMDA receptors. Fibromyalgia is now conceived as a central sensitization state with secondary hyperalgesia. Cannabinoids have similarly demonstrated the ability to block spinal, peripheral and gastrointestinal mechanisms that promote pain in headache, fibromyalgia, IBS and related disorders. The past and potential clinical utility of cannabis-based medicines in their treatment is discussed, as are further suggestions for experimental investigation of CECD via CSF examination and neuro-imaging.

CONCLUSION: Migraine, fibromyalgia, IBS and related conditions display common clinical, biochemical and pathophysiological patterns that suggest an underlying clinical endocannabinoid deficiency that may be suitably treated with cannabinoid medicines

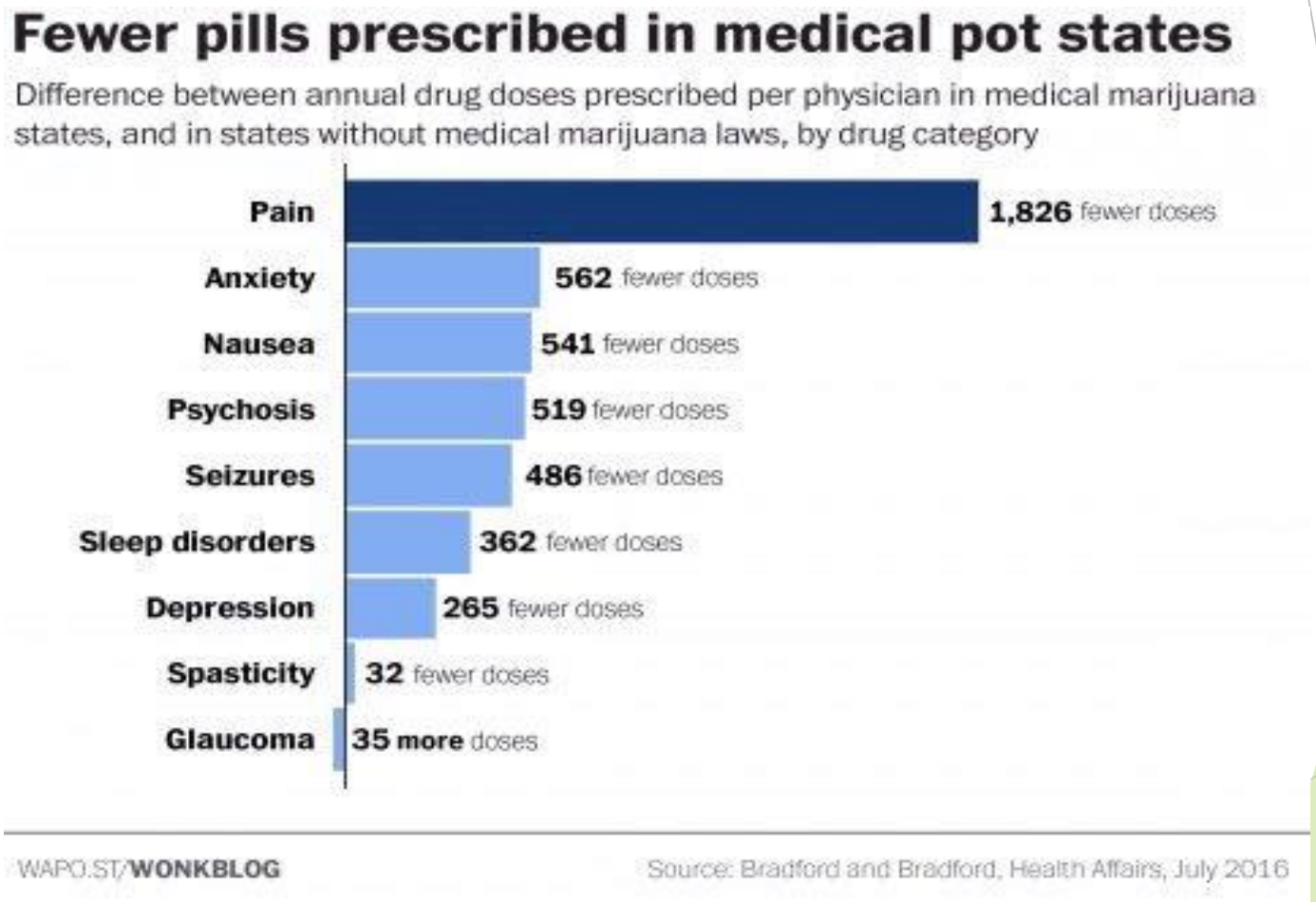
Medical Cannabis Laws and Opioid Analgesic Overdose Mortality in the United States, 1999-2010

http://archinte.jamanetwork.com/article.aspx?articleid=1898878

ABSTRACT

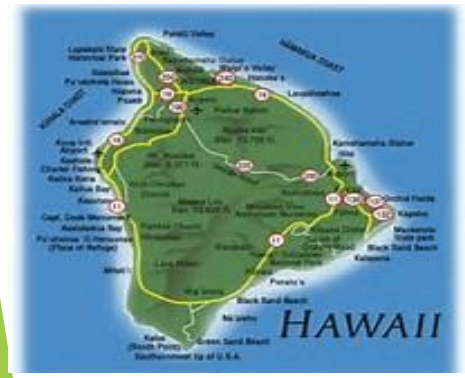
- **Importance** Opioid analgesic overdose mortality continues to rise in the United States, driven by increases in prescribing for chronic pain. Because chronic pain is a major indication for medical cannabis, laws that establish access to medical cannabis may change overdose mortality related to opioid analgesics in states that have enacted them.
- **Objective** To determine the association between the presence of state medical cannabis laws and opioid analgesic overdose mortality.
- **Design, Setting, and Participants** A time-series analysis was conducted of medical cannabis laws and state-level death certificate data in the United States from 1999 to 2010; all 50 states were included.
- **Exposures** Presence of a law establishing a medical cannabis program in the state.
- **Main Outcomes and Measures** Age-adjusted opioid analgesic overdose death rate per 100 000 population in each state. Regression models were developed including state and year fixed effects, the presence of 3 different policies regarding opioid analgesics, and the state-specific unemployment rate.
- **Results** Three states (California, Oregon, and Washington) had medical cannabis laws effective prior to 1999. Ten states (Alaska, Colorado, Hawaii, Maine, Michigan, Montana, Nevada, New Mexico, Rhode Island, and Vermont) enacted medical cannabis laws between 1999 and 2010. States with medical cannabis laws had a 24.8% lower mean annual opioid overdose mortality rate (95% CI, −37.5% to −9.5%; $P = .003$) compared with states without medical cannabis laws. Examination of the association between medical cannabis laws and opioid analgesic overdose mortality in each year after implementation of the law showed that such laws were associated with a lower rate of overdose mortality that generally strengthened over time: year 1 (−19.9%; 95% CI, −30.6% to −7.7%; $P = .002$), year 2 (−25.2%; 95% CI, −40.6% to −5.9%; $P = .01$), year 3 (−23.6%; 95% CI, −41.1% to −1.0%; $P = .04$), year 4 (−20.2%; 95% CI, −33.6% to −4.0%; $P = .02$), year 5 (−33.7%; 95% CI, −50.9% to −10.4%; $P = .008$), and year 6 (−33.3%; 95% CI, −44.7% to −19.6%; $P < .001$). In secondary analyses, the findings remained similar.
- **Conclusions and Relevance** Medical cannabis laws are associated with significantly lower state-level opioid overdose mortality rates. Further investigation is required to determine how medical cannabis laws may interact with policies aimed at preventing opioid analgesic overdose.

Part D Medicare



Hawaii vs. Kentucky

- Big Island - 4,028 square miles
- Kentucky - 40,409 square miles



Hawaii's Marijuana Eradication Experience

- **Section 3: FINDINGS**
  (a) The Institute of Medicine has found that Cannabis (marijuana) has medicinal value and is not a gateway drug.
  (b) According to the U.S. Centers for Disease Control, the use of Cannabis (marijuana) directly results in 0 (zero) deaths per year.
  (c) According to the National Institute of Drug Abuse (NIDA), the marijuana eradication program has not stopped Cannabis cultivation in the County of Hawai'i, rather the program has only decreased the availability of the plant, which increases it's 'street' value, resulting in more crime.
  (d) The National Institute of Drug Abuse (NIDA) also reported that a large increase of the use of methamphetamine, crack cocaine, and other hard drugs was related to the marijuana eradication program's implementation.
  (e) According to public record, the 'mandatory program review' for the marijuana eradication program, required by Section 3-16 of the County Charter to be performed at least once every 4 years, has never been performed in the 30 years that the program has existed.
  (f) Law abiding adults are being arrested and imprisoned for nonviolent Cannabis offenses, clogging our court dockets, overcrowding our prisons, tying up valuable law enforcement resources and costing taxpayers hundreds of thousands of dollars in Hawai'i County alone each year.
  (g) The citizens of the Cities of Hailey, Idaho; Denver, Colorado; Seattle, Washington; Columbia, Missouri; Eureka Springs, Arkansas and Santa Barbara, Oakland, Santa Monica, and Santa Cruz, in California, and the citizens of Missoula County, Montana, all voted for Cannabis (marijuana) to be placed as law enforcement's lowest law enforcement priority within the past five years.

Traffic Fatalities

State/Population	2014	2015	2016	2017	n/100k
Colorado 5.4 m	488	547	608	638	10.5
Washington 7.2 m	467	567	536	553	7.4
Nevada 3.0 m	291	321	330	303	10.4
Oregon 4.1 m	356	445	448	403	10.0
California 39.5 m	3084	3249	3680	3564	8.6
Kentucky 4.4 m	665	761	834	770	17.2

Overdose Fatalities

State/Population	2014	2015	2016	2017 n/100k/avg
Washington 7.2m	979	1094	1102	n/a 14.7
Colorado 5.4m	899	869	912	959 16.8
Nevada 3.0m	545	619	665	n/a 20.3
Oregon 4.1m	522	505	506	n/a 12.5
California 39.5m	4521	4659	4654	n/a 11.7
Kentucky 4.4m	1077	1273	1404	1565 30.2

2018 US Average 72k/327m = 22.01/100k

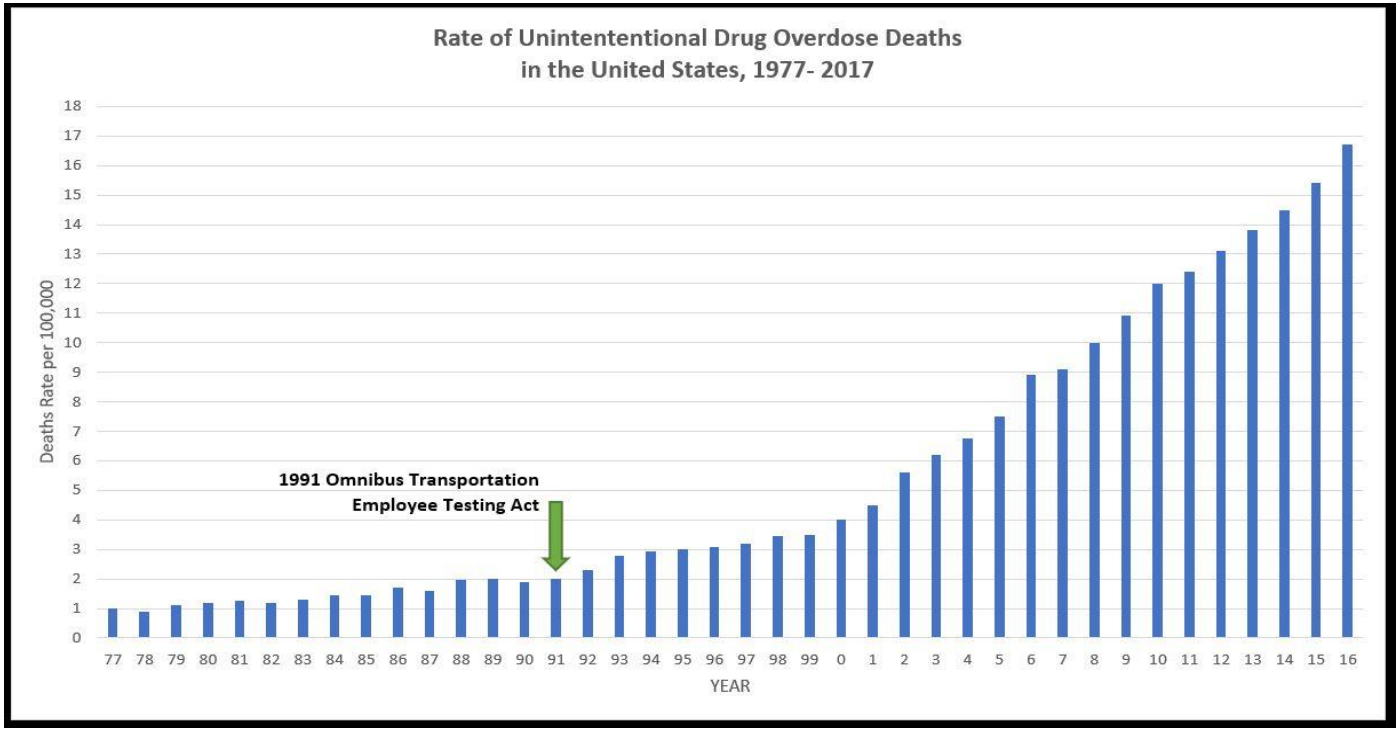
Skinner vs. The Railway Labor Executives Association (489 US 602)

History teaches that grave threats to liberty often come in times of urgency, when constitutional rights seem too extravagant to endure.

When we allow fundamental freedoms to be sacrificed in the name of real or perceived exigency, we invariably come to regret it.

Thurgood Marshall, Dissenting Opinion

Drug Testing –The Gateway to Harder Drugs



1991 Omnibus Transportation Employee Testing Act

CDC: Drug overdose death rates have been rising steadily since 1992

J Addict Dis. 2014;33(1):24-7. doi: 10.1080/10550887.2014.882729.

http://www.ncbi.nlm.nih.gov/pubmed/24467478

Marijuana and workplace safety: an examination of urine drug tests.

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Abstract

Although the decriminalization of recreational marijuana and medical marijuana laws provide a compassionate answer for treatment-related issues in patients' lives, they leave questions open as to the impact on other realms of life, such as employment and safety.

This is a case-control study comparing the proportion of marijuana positive urine specimens for post-accident verses random samples. The marijuana concentration of each sample underwent creatinine normalization to account for in vivo dilution. Any sample that tested positive for one or more substances other than marijuana was eliminated from the study. The prevalence of marijuana violations, the odds ratio and 95% confidence interval of accident involvement and the population attributable risk were calculated. A two-by-two table was created with the remaining data and the data were used to calculate the odds ratio, resulting in a value of 0.814 with a 95% confidence interval between 0.625 and 1.060. The Fisher exact probability test generated a 2-tailed P of .139. The subsequent population attributable risk was found to be -1.83%.

These findings fail to reject the null hypothesis, and this study failed to demonstrate a statistically significant difference between the numbers of laboratory positive marijuana urine drug tests for a group of random drug tests compared with a group of post-accident drug tests.

Addiction. 2010 Mar;105(3):408-16. doi: 10.1111/j.1360-0443.2009.02808.x.

http://www.ncbi.nlm.nih.gov/pubmed/20402984

Testing for cannabis in the work-place: a review of the evidence.

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BACKGROUND:

Urinalysis testing in the work-place has been adopted widely by employers in the United States to deter employee drug use and promote 'drug-free' work-places. In other countries, such as Canada, testing is focused more narrowly on identifying employees whose drug use puts the safety of others at risk.

AIMS:

We review 20 years of published literature on questions relevant to the objectives of work-place drug testing (WPDT), with a special emphasis on cannabis, the most commonly detected drug.

RESULTS:

We conclude (i) that the acute effects of smoking cannabis impair performance for a period of about 4 hours; (ii) long-term heavy use of cannabis can impair cognitive ability, but it is not clear that heavy cannabis users represent a meaningful job safety risk unless using before work or on the job; (iii) urine tests have poor validity and low sensitivity to detect employees who represent a safety risk; (iv) drug testing is related to reductions in the prevalence of cannabis positive tests among employees, but this might not translate into fewer cannabis users; and (v) urinalysis has not been shown to have a meaningful impact on job injury/accident rates.

CONCLUSIONS:

Urinalysis testing is not recommended as a diagnostic tool to identify employees who represent a job safety risk from cannabis use. Blood testing for active tetrahydrocannabinol (THC) can be considered by employers who wish to identify employees whose performance may be impaired by their cannabis use.

Drugs in Pilot Toxicology

Table 6. Comparison of CI-CV drug / Prescription drug positives for the past 20 years

CI-CV DRUG	N= 1845 1989-93	%	N= 1683 1994-98	%	N= 1587 1999-03	%	N= 1353 2004-08	%
MARIJUANA	46	2.5	43	2.6	39	2.5	28	2.1
DIPHENHYDRAMINE	32	1.7	54	3.2	83	5.2	82	6.1
BENZODIAZEPINES	24	1.3	33	2	24	1.5	21	1.6
CODEINE/MORPHINE	11	0.6	17	1	31	2	15	1.1
PSEUDOEPHEDRINE	47	2.5	84	5	91	5.7	56	4.1

Why is cannabis found so infrequently in non-drug tested pilots?

NTSB – Drug use in aviation

DRUG CATEGORY	1990-1997	1998-2002	2003-2007	2008-2012	TOTAL STUDY PERIOD 1990-2014
Sedating antihistamines	5.60%	8.20%	8.30%	9.90%	7.50%
Antidepressants	1%	4.50%	5.80%	5.30%	3.50%
Illicit drugs	2.30%	2.90%	2.90%	3.80%	2.80%

Why is cannabis found so infrequently in non-drug tested pilots?

NTSB Recommendations

- Develop and distribute a clear policy regarding any marijuana use by airmen regardless of the type of flight operation. (A-14-94)
- Conduct a study to assess the prevalence of over-the-counter, prescription, and illicit drug use among flying pilots not involved in accidents, and compare those results with findings from pilots who have died from aviation accidents to assess the safety risks of using those drugs while flying. (A-14-95)

Conclusions

Cannabis prohibition is a counter-productive policy that has numerous unintended negative consequences on society.

Cannabis, in its natural form, is one of the safest therapeutically active substances known to man. By any rational analysis cannabis can be safely used within a supervised routine of medical care.

The underlying cause of numerous treatment resistant conditions is a deficiency of endo-cannabanoids. Natural cannabis supplements the endo-cannabanoid system of deficient individuals. Cannabinoid deficient citizens have a mild handicap, which is far different than having an addiction.

Conclusions

States that have relaxed cannabis laws have seen fewer fatal overdose deaths, which means that states that continue to prohibit cannabis are increasing their overdose death rate.

Eradication is both ineffective and counter-productive. Eradication causes an increase in the use of more dangerous drugs.

Drug testing for cannabis is also ineffective and counter-productive. The lengthy detection time of the inactive cannabis metabolite on a standard drug screen creates a bias toward the use of drugs that don't show on a drug screen or drugs that have shorter detection times.

Recommendations

- Recommendation: Legislators should recognize the numerous negative societal consequences of cannabis prohibition and pass legislation that minimizes these harms.

- Recommendations:
  1) Relegalize cannabis for adults, make a medical exception for minors
  2) End the eradication program
  3) End or reform counter-productive drug testing
  4) Introduce real drug education in our schools
  5) Train the medical community to embrace cannabis as a medicine

- Recommendation: The Louisville Metro Council should call for an audit of the federal workforce drug testing program and government incentives that promote drug testing.