

## The Many Problems and Consequences of Marijuana Use: Marijuana Use is a Serious Threat to Public Health

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### Abstract

In recent decades there have been many challenges to the longstanding bipartisan, restrictive drug policies in the United States, most of which focus on marijuana. In 1996, California became the first US state to legalize marijuana for "medical" uses through a state ballot initiative. Fifteen states and the District of Columbia followed California's lead, passing "medical marijuana" initiatives. "Medical marijuana" has proven to be the stepping stone to efforts to legalize marijuana for personal use.

Supporters of "medical marijuana" and legalization ignore the serious damages that marijuana use causes each year to Americans of all ages and the fact that both measures will increase rates of marijuana use. The assumption in these pro-marijuana efforts is that prohibition causes serious problems and that marijuana use is benign. The fact is that marijuana use is a serious threat to public health, and in particular, to the health of young people.

### "Medical Marijuana" and Marijuana Legalization Efforts Send the Wrong Messages to Youth: They Support the View that Marijuana is Not Only Safe, But That It Is a "Medicine"

- ▶ Marijuana is a primary cause of substance abuse and dependence. Of Americans aged 12 and older suffering from substance abuse or substance dependence, 60.5% are suffering because of marijuana use -- more than any other drug and nearly as many as all other illegal drugs combined, including heroin, cocaine, methamphetamine and Ecstasy. (1)
- ▶ Early marijuana use is especially dangerous. Adults who first started using marijuana use at age 14 or younger are most likely to have abused or been dependent on illicit drugs in the past year. (2) Adults who first used marijuana at or before age 14 were six times more likely to meet the criteria for abuse or dependence than those who initiated marijuana use at age 18 or older (12.6% vs. 2.1%) and two times more likely than those who initiated marijuana use between the ages of 15 and 17 (12.6% vs. 6.6%).
- ▶ Currently, 16 states and the District of Columbia have legalized "medical marijuana." Based on available figures, advocacy of medical marijuana laws in these states has had dramatic effect on increasing youth use. For states with "medical marijuana," youth use rates tend to remain above the national averages following passage. (3)
- ▶ Youth who use marijuana are more likely to have higher rates of other illegal drug use.(4) This is most evident for heavy users. It is even more pronounced for adolescents than for adults.
- ▶ Early initiation of marijuana use reduces educational attainment of youth. (5)
- ▶ Students who smoke marijuana regularly are more likely to drop out of high school.(6) Students who smoked marijuana within the past year were more than twice as likely to have cut class as students who did not.(7) Health problems associated with using marijuana can keep students from attending school due to illness.
- ▶ Heavy marijuana use may damage developing brains in teens and young adults.(8) Research has also shown that the human brain goes through the most growth during the adolescent years. Marijuana can affect proper development of the brain, which could not only cause learning problems in high school, but also in the future.(9)
- ▶ Marijuana use is a major cause of highway crashes, injury and death.(10) A study in Maryland found that half of the seriously injured drivers aged 20 and younger tested positive for recent marijuana use.(11) Nearly one quarter (23.2%) of high school seniors reported that they drove or rode with a driver after he or she used marijuana in the past two weeks.(12)

### Marijuana Use Negatively Impacts Mental Health

- ▶ Prevalence of depression and anxiety increases with higher rates of cannabis use.(13) This pattern has been shown clearest in young women who use cannabis daily. They had more than a fivefold increase in the odds of depression and anxiety compared to non-users. In addition, young people who use marijuana weekly have double the risk of depression later in life.
- ▶ Teens who smoke marijuana at least once a month are three times more likely to have suicidal thoughts than are non-users.(14)
- ▶ Using marijuana may increase the chance of psychosis.(15) Even infrequent marijuana use could raise the small but real risk of this mental illness by 40%. In an analysis of 35 studies of marijuana users, the risk for psychosis for heavy marijuana users (daily or weekly) was 50% to 200% higher than for nonusers.
- ▶ Heavy marijuana users are more likely to be diagnosed with schizophrenia later in life. (16)

### Marijuana is Addictive

- ▶ In 2009, 1.1 million youth aged 12 to 17 needed treatment for an illicit drug problem; of this, only 115,000 (10.5%) received treatment at a specialty facility.(17) This is roughly equal to the 1.2 million youth aged 12 to 17 who needed treatment for an alcohol use problem in 2009.
- ▶ More teens are in treatment with a primary diagnosis of marijuana dependence than all other illicit drugs combined. (18)
- ▶ Frequent marijuana use results in high risk of dependence. Rates of cannabis dependence are estimated at 20% to 30% among those who have used at least five times, and even higher estimates (35%-40%) are reported among those who report near daily use. (19)
- ▶ The marijuana sold today is far more powerful than the marijuana used 30 years ago. From 1992 to 2006, there was a 175% jump in the potency of marijuana that was seized. (20)
- ▶ Heavy use of marijuana creates physical dependence, including tolerance and withdrawal.(21)
- ▶ Signs of marijuana withdrawal include anxiety, depressed mood, decreased appetite, irritability, restlessness, difficulty sleeping, stomach pain, aggression and anger. Withdrawal symptoms due to marijuana use run similar courses to withdrawal symptoms due to other drugs in terms of magnitude and duration.(22)

### Smoked Marijuana is NOT "Medicine"

- ▶ Smoking marijuana causes changes in the brain that are similar to those caused by long-term use of cocaine and heroin. (23)
- ▶ Smoking is not a safe or sensible way to deliver a drug. There is no way to control dose. No medicine used anywhere in the world is prescribed by smoking because smoke is harmful to lungs.
- ▶ Marijuana is more harmful to lungs than tobacco.(24) Smoking one joint is as harmful to lungs as having up to 5 cigarettes in succession.(25) Marijuana smoke has ammonia levels that are 20 times higher than tobacco smoke. Marijuana contains hydrogen cyanide, nitric oxide and aromatic amines at 3-5 times higher than tobacco smoke.
- ▶ Marijuana smokers face faster deterioration of lungs – 20 years ahead of tobacco smokers. (26)
- ▶ The FDA does not approve of smoked marijuana as medicine.(27) Delta-9-tetrahydrocannabinol (THC) is approved by the FDA only in a synthetic, tested form called dronabinol ("Marinol") which is used to treat nausea in cancer and AIDS patients. It is not smoked crude marijuana. This medicine, approved by the FDA 20 years ago, can be prescribed by any licensed physician.
- ▶ Some marijuana is laced with cocaine, PCP and dangerous chemicals including formaldehyde. (28)

Provided by the Institute for Behavior and Health, Inc.: [www.ibhinc.org](http://www.ibhinc.org).

More information on the negative effects of marijuana can be found at the following websites:

The Anti-Drug.Com: [www.theantidrug.com](http://www.theantidrug.com)

Drug Enforcement Administration: [www.justice.gov/dea](http://www.justice.gov/dea)

National Institute on Drug Abuse: [www.nida.nih.gov](http://www.nida.nih.gov)

The White House Office of National Drug Control Policy: [www.whitehousedrugpolicy.gov](http://www.whitehousedrugpolicy.gov)

### Author Information

For more than 30 years, Robert L. DuPont, M.D. has been a leader in drug abuse prevention and treatment. Among his many contributions to the field is his leadership as the first Director of the National Institute on Drug Abuse (1973-1978) and as the second White House Drug Chief (1973-1978). From 1968 to 1970 he was Director of Community Services, for the District of Columbia Department of Corrections, heading parole

and half-way house services. From 1970 to 1973, he served as Administrator of the District of Columbia Narcotics Treatment Administration (NTA), the city-wide drug abuse treatment program that was the model for the federal government's massive commitment to drug abuse treatment in the early 1970s. Following this distinguished public career, in 1978 Dr. DuPont became the founding president of the Institute for Behavior and Health, Inc.

Dr. DuPont has written for publication more than three hundred professional articles and fifteen books and monographs on a variety of health-related subjects. His books include *Getting Tough on Gateway Drugs: A Guide for the Family, A Bridge to Recovery: An Introduction to Twelve-Step Programs* and *The Selfish Brain: Learning from Addiction*. In 2005, Hazelden, the nation's leading publisher of books on addiction and recovery, published three books on drug testing by Dr. DuPont: *Drug Testing in Drug Abuse Treatment*, *Drug Testing in Schools*, and *Drug Testing in the Criminal Justice System*.

Throughout his decades of work in addiction prevention, Dr. DuPont has served in many capacities. His activities in the American Society of Addiction Medicine (ASAM) include chairing the forensic science committee and he is a Life Fellow. He is also a Life Fellow of the American Psychiatric Association (APA) and was chairman of the Drug Dependence Section of the World Psychiatric Association (WPA) from 1974 to 1979. In 1989 he became a founding member of the Medical Review Officer Committee of ASAM.

A graduate of Emory University, Dr. DuPont received an M.D. degree in 1963 from the Harvard Medical School. He completed his psychiatric training at Harvard and the National Institutes of Health in Bethesda, Maryland. Dr. DuPont maintains an active practice of psychiatry specializing in addiction and the anxiety disorders and has been Clinical Professor of Psychiatry at the Georgetown University School of Medicine since 1980. He is vice president of Bensinger, DuPont and Associates (BDA), a leading national consulting firm dealing with substance abuse, founded in 1982 by Dr. DuPont and Peter Bensinger, former Director of the Drug Enforcement Administration.

Dr. DuPont's signature role throughout his career has been to focus on the public health goal of reducing the use of illegal drugs.

## References

1. Substance Abuse and Mental Health Services Administration. (2010). Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of National Findings (Office of Applied Studies, NSDUH Series H-38A, HHS Publication No. SMA 10-4586 Findings). Rockville, MD.
2. Center for Substance Abuse Research (2010, October 25). Early marijuana use related to later illicit drug abuse and dependence. CESAR Fax, 19(11).
3. Educating Voices, Inc. (2009, April). Marijuana Policy Project (MPP) misleading --- youth marijuana use in medical marijuana states is high. Retrieved July 5, 2011 from [http://www.californiapolicechiefs.org/files/marijuana\\_files/files/Marijuana\\_Use\\_Medical\\_Marijuana\\_Youth.pdf](http://www.californiapolicechiefs.org/files/marijuana_files/files/Marijuana_Use_Medical_Marijuana_Youth.pdf)
4. Martin, K. R. (2003). Youths' opportunities to experiment influence later use of illegal drugs. NIDA Notes, 17(3).
5. van Ours, J., & Williams, J. (2007, September 18). Cannabis use and educational attainment. VOX. Retrieved October 27, 2010 from <http://www.voxeu.org/index.php?q=node/546>
6. Above the Influence National Youth Anti-Drug Media Campaign. (n.d.) Does pot affect your memory? Would it really hurt your grades in school? Retrieved July 5, 2011 from <http://www.abovetheinfluence.com/help/askthedoc/>
7. Substance Abuse and Mental Health Services Administration, (1998). Analyses of Substance Abuse and Treatment Need Issues. (Office of Applied Studies, OAS Analytic Series #A-7, DHHS Publication No. (SMA) 98-3227). Rockville, MD.
8. Children's Hospital of Philadelphia (2009, February 3). Heavy Marijuana Use May Damage Developing Brain In Teens, Young Adults. ScienceDaily. Retrieved October 27, 2010, from <http://www.sciencedaily.com/releases/2009/02/090202175105.htm>
9. Above the Influence National Youth Anti-Drug Media Campaign. (n.d.) What are the long-term effects of smoking pot? Retrieved July 5, 2011 from <http://www.abovetheinfluence.com/help/askthedoc/>
10. National Institute on Drug Abuse. (2008, March). Marijuana: Facts for Teens. NIH Publication No. 08-4037. Retrieved October 27, 2010 from <http://www.nida.nih.gov/marijbroch/marijteens.html>
11. Walsh, J.M, Flegel, R., Atkins, R., Cangianelli, L.A., Cooper, C., Welsh, C., & Kerns, T.J. (2005). Drug and Alcohol Use Among Drivers Admitted to a Level-1 Trauma Center, Accident Analysis and Prevention, 37(5), 894-901.
12. O'Malley, P.M. & Johnston, L. D. (2007). Drugs and Driving by American High School Seniors, 2001-2006, Journal of Studies on Alcohol and Drugs, 68(6):834-842.

13. Patton, G.C., Coffey, C., Carlin, J.B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal*, 32, 1195-1198.
14. Office of National Drug Control Policy. (2008, July). 2008 Marijuana Sourcebook: Marijuana: The Greatest Cause of Illegal Drug Abuse. Washington, DC: Office of National Drug Control Policy. Retrieved July 5, 2011 from [http://www.justice.gov/dea/statistics/Marijuana\\_2008.pdf](http://www.justice.gov/dea/statistics/Marijuana_2008.pdf)
15. Cheng, M. (2007, July 26). Report: Using Pot May Heighten Risk of Becoming Psychotic. Associated Press.
16. Zammit, S., et al. Self-reported cannabis use as a risk factor for schizophrenia in Swedish conscripts of 1969: historical cohort study. *British Medical Journal*, 325, 1199-1201.
17. Substance Abuse and Mental Health Services Administration. (2010). Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of National Findings (Office of Applied Studies, NSDUH Series H-38A, HHS Publication No. SMA 10-4586 Findings). Rockville, MD.
18. Substance Abuse and Mental Health Services Administration. (2006). Treatment Episodes Data Set (TEDS), 1992-2006.
19. Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.
20. National Center on Addiction and Substance Abuse at Columbia University. (2008, June). Non-Medical Marijuana III: Rite of Passage or Russian Roulette?, A CASA White Paper. New York, NY: National Center on Addiction and Substance Abuse at Columbia University. Retrieved July 5, 2011 from [http://www.casacolumbia.org/articlefiles/380-Non-Medical\\_Marijuana\\_III.pdf](http://www.casacolumbia.org/articlefiles/380-Non-Medical_Marijuana_III.pdf)
21. Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.
22. Budney, A.J., & Moore, B.A. (2002). Development and Consequences of Cannabis Dependence. *Journal of Clinical Pharmacology*, 42, 28S-38S.
23. National Institute on Drug Abuse. (2008, March). Marijuana: Facts for Teens. NIH Publication No. 08-4037. Retrieved October 27, 2010 from <http://www.nida.nih.gov/marijbroch/marijteens.html>
24. American Chemical Society (2007, December 18). Marijuana Smoke Contains Higher Levels Of Certain Toxins Than Tobacco Smoke. *ScienceDaily*. Retrieved October 27, 2010, from <http://www.sciencedaily.com/releases/2007/12/071217110328.htm>
25. Reuters. (2007, July 31). One cannabis joint as bad as five cigarettes. Retrieved October 27, 2010 from <http://www.reuters.com/article/idUSL3173105820070731>
26. Blackwell Publishing (2008, January 27). Marijuana Smokers Face Rapid Lung Destruction -- As Much As 20 Years Ahead Of Tobacco Smokers. *ScienceDaily*. Retrieved October 27, 2010, from <http://www.sciencedaily.com/releases/2008/01/080123104017.htm>
27. Drug Free Schools Coalition. (2008). The "facts" about medical marijuana. Retrieved July 5, 2011 from [http://www.daca.org.au/illicit/cannabis/articles/others/Facts\\_about\\_medical\\_marijuana\\_2008.pdf](http://www.daca.org.au/illicit/cannabis/articles/others/Facts_about_medical_marijuana_2008.pdf)
28. Center for Substance Abuse Research. (2005). Marijuana. Retrieved July 5, 2011 from <http://www.cesar.umd.edu/cesar/drugs/marijuana.asp>