

**Talking Points:  
Chemical/Medical Aspects of marijuana**

**In a nutshell:**

- Marijuana is an intoxicant that can compromise cognitive, lung and heart function. The potency of marijuana has increased dramatically in the last 30 years, and there has been a sharp increase in the medical research, journals and organizations taking a stand against recreational marijuana use. As to our children, overall drug and tobacco use by teens is down, but federal and state data shows that teens are hospitalized for marijuana abuse and addiction more than for all other major drugs combined.

**How marijuana affects our children: Nationally:**

- The good news is that overall drug use, including marijuana and tobacco use, by teens has started going down in the last few years (national and state data confirm this). However, there are striking and parallel increases in the potency of marijuana (see below); in admissions of teens for marijuana abuse; in DSM diagnoses of teens for marijuana dependency, and in ER admissions for marijuana abuse. Since 1992 there has been a dramatic increase in the rate of adolescent admissions for marijuana abuse or dependency, while admissions for dependence on other drugs has markedly declined.
  - Source: The National Center on Addiction and Substance Abuse at Columbia University (The Califano Report): *Non-Medical Marijuana III: Rite of Passage or Russian Roulette?* July 2008; Substance Abuse and Mental Health Services Administration (SAMHSA), an agency of the U.S. Department of Health and Human Services, 2006 National Survey on Drug Use and Health (NSDUH).

**How marijuana affects our children: In Massachusetts:**

- Following the national trend, teen use of marijuana and tobacco is also down. (*MA DPH study on risk and behaviors, Spring 2008*).
- However, the primary cause for inpatient substance abuse treatment in MA in FY 2004 (most recent data available) was marijuana abuse; kids use marijuana before they use alcohol.
- In FY 2004, the average age of adolescent admissions for substance abuse treatment was 16.1 years. Of all adolescent admittees, 56% reported that marijuana was the primary drug for which they were seeking treatment; 27% reported alcohol as the primary substance of use. The mean age of first use for alcohol was 13.1 years. The mean age of first use for marijuana was 12.9 years
  - Source: *Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Office of Statistics and Evaluation, Substance Abuse Fact Sheet/Adolescent Admissions/2004.*

**Marijuana Potency**

- THC is the primary psychoactive ingredient in marijuana and determines its potency. Today's marijuana is, on average, 9 times more potent than the marijuana of the 1960s: average THC levels in seized marijuana samples in the mid-1970s were less than one percent compared to 9.6 today. The US Government attributes the increase to sophisticated growing techniques used by drug traffickers.
  - Source: The Califano Report; [www.whitehousedrugpolicy.org](http://www.whitehousedrugpolicy.org)
- In Canada, which has the highest marijuana use of all industrialized countries, the Royal Canadian Mounted Police report a new cannabis derivative called "budder", which is synthesized by whipping air and freezing isomerized hash oil. This new drug reportedly has THC levels ranging from 82 per cent to 99.6 per cent: three grams of "Budder" is described as equivalent to 100 hits of smoked marijuana.
  - Source: Royal Canadian Mounted Police, Drug Situation Report 2006

### Carcinogens and marijuana

- Medical professionals find it troubling that parents who deliver a "don't smoke cigarettes" mantra to their children from infancy do not realize the toxic properties of marijuana. In January 2008, New Zealand scientists published a report finding that smoking marijuana is far more dangerous than smoking cigarettes. The researchers found that smoking one joint is equivalent to 20 cigarettes in terms of lung cancer. ....Study results appear in the European Respiratory Journal, January 2008. Source: <http://www.foxnews.com/story/0,2933,326309,00.html>

### Marijuana, Heart Disease and Depression:

- Chronic marijuana use may affect the heart's health as well as the brain's. A study published May 13, 2008 in the journal *Molecular Psychiatry* found that chronic marijuana users—those who smoke on average nearly every day—may up their risk of both heart attack and stroke.
- There is some evidence linking long-term marijuana use to teen depression as well as aggravation of pre-existing mental conditions.
  - Source: Teen Marijuana Use Worsens Depression: An Analysis of Recent Data Shows "Self-Medicating" Could Actually Make Things Worse. Office of National Drug Control Policy, May 2008.

### Marijuana and Psychoses

- In July 2007 the Lancet, a respected British medical journal, published a study suggesting that marijuana use seems to increase the chance of becoming psychotic. The report, funded by the British Health Department, indicated that even infrequent use could raise the small but real risk of this serious mental illness by 40 percent. Doctors have long suspected a connection and say the latest findings underline the need to highlight marijuana's long-term risks. "The available evidence now suggests that cannabis is not as harmless as many people think," said Dr. Stanley Zammit, one of the study's authors and a lecturer in the department of psychological medicine at Cardiff University.
- **"We've reached the end of the road with these kinds of studies," said Dr. Robin Murray of King's College, who had no role in the Lancet study. "Experts are now agreed on the connection between cannabis and psychoses. What we need now is for 14-year-olds to know it."**
- The finding prompted The Lancet's editors to post this commentary to accompany the study:

- *In 1995, we began a Lancet editorial with the since much-quoted words: "The smoking of cannabis, even long term, is not harmful to health." Research published since 1995, including [the] systematic review in this issue, leads us now to conclude that cannabis use could increase the risk of psychotic illness. ... governments would do well to invest in sustained and effective education campaigns on the risks to health of taking cannabis.*
- Spanish researchers have found a strong and independent link between cannabis use and the onset of psychosis at a younger age. "The clinical importance of this finding is potentially high," Dr. Ana Gonzalez-Pinto from Santiago Apostol Hospital in Vitoria, and colleagues write in the Journal of Clinical Psychiatry, given that cannabis use is extremely prevalent among young people." The researchers also report that "estimates of the attributable risk suggest that the use of cannabis accounts for about 10 percent of cases of psychosis." These results "point to cannabis as a dangerous drug in young people at risk of developing psychosis," Gonzalez-Pinto and colleagues conclude.
  - SOURCE: Journal of Clinical Psychiatry, August 2008.
- **Schizophrenia:** There is increasing evidence that the use of street drugs, including marijuana, is linked with significantly increased probability of developing schizophrenia. This link has been documented in over 30 different scientific studies (studies done mostly in the UK, Australia and Sweden) over the past 20 years. In one example, a study interviewed 50,000 members of the Swedish Army about their drug consumption and followed up with them later in life. Those who were heavy consumers of cannabis at age 18 were over 600% more likely to be diagnosed with schizophrenia over the next 15 years than those did not take it. (see diagram below). Experts estimate that between 8% and 13% of all schizophrenia cases are linked to marijuana / cannabis use during teen years. See schizophrenia.com.
- Kevin Sabat, Ph.D., formerly of the Office of Drug Control Policy, notes that a link between marijuana and psychosis and schizophrenia has emerged in respected research journals (Ashton 2001; Hall and Solowij 1998; Jha 2002; Johns 2001; Patton 2002). In a New Zealand study, Arseneault and colleagues discovered that using marijuana as an adolescent increases the risk for schizophrenia even after adjustment for pre-existing childhood psychoses (Arseneault et al 2002). Meta-analyses have found that eliminating marijuana use could reduce incidence of schizophrenia by 8% among a nation's population (Arseneault et al 2004). "In the U.S. that means that stopping marijuana use could reduce schizophrenia by more than 19,000 people." Kevin Sabat, Ph.D.