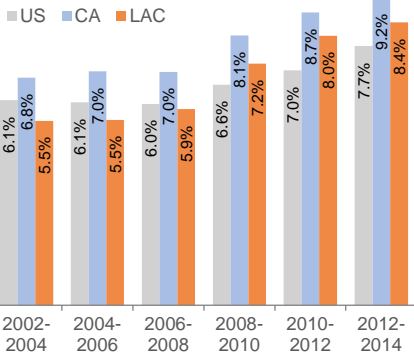


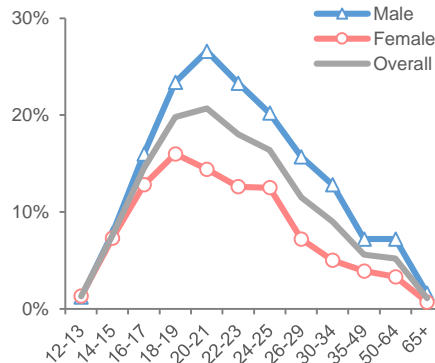
Marijuana Misuse/Abuse and Consequences

Prevalence

Marijuana use in the past month, age 12 or older, 2002-2014¹

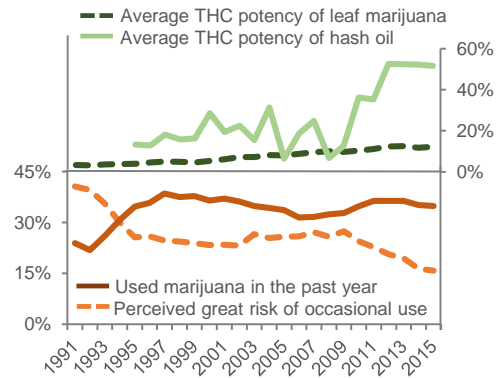


Past month marijuana use, by age and gender, CA, 2012-2013²



Risk Perception

THC potency, and use and perceived harm of marijuana among 12th graders, US, 1991-2015³⁻⁴



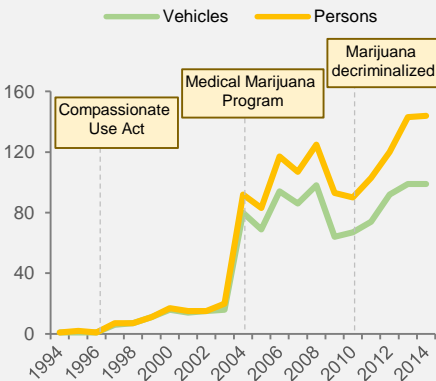
Marijuana use in Los Angeles County (LAC) became greater than the US average after 2008

Marijuana use is higher in males, and peaks at ages 18-21 years

Use increased as perceived harm of occasional use of marijuana decreased despite increasing THC potency

Drug-Impaired Driving

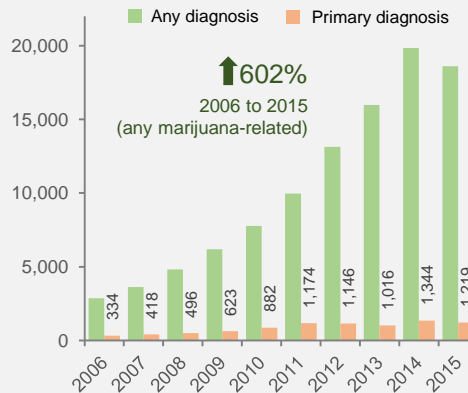
Traffic crash fatalities involving marijuana, LAC, 1994-2014⁵



Marijuana-involved traffic fatalities increased by 620% from 2003-2014

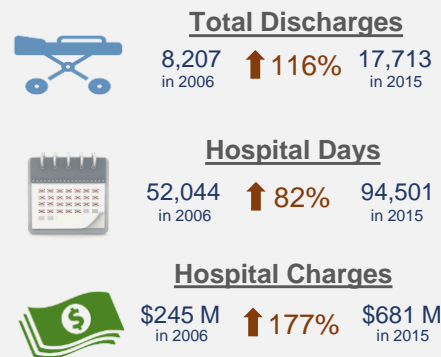
Healthcare Utilization

Emergency department (ED) visits involving marijuana, LAC, 2006-2015⁶



Marijuana-involved ED visits increased 602% from 2006-2015

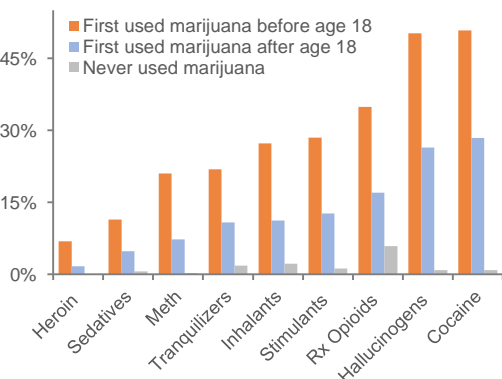
Burden of marijuana-related hospitalizations, LAC, 2006 and 2015⁶



Marijuana-related hospitalizations accounts for a large economic burden

Early Onset and Dependency

Lifetime illicit drug use, by marijuana use, CA, 2012-2013²



Marijuana users were more likely to use other illicit drugs in their lifetime, especially teen initiates

Long-term Outcomes

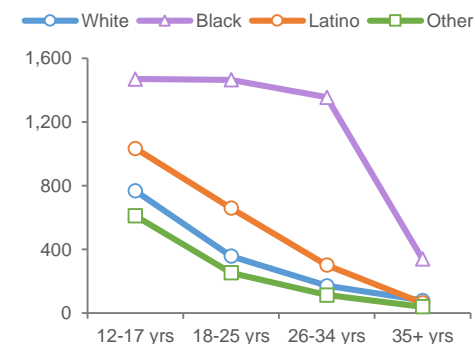


1 in 9 experimenters
1 in 6 teen initiates
1 in 2 daily users
become addicted⁷

Adverse outcome	Strength of effect among regular recreational users ⁸
Education	2-fold lower attainment
IQ	8 points lower (teen initiates) ⁹
Psychosis	2-fold increased risk
Lung disease	2-fold increased risk
Heart attack	3-4 fold increased risk
Testicular cancer	2-3 fold increased risk

Treatment

Rate of admission (per 100,000 pop under 133%FPL) with marijuana as primary drug problem, by age and race/ethnicity, FY1516¹⁰



African Americans have the highest rate of entering treatment for marijuana use disorder in all age groups

Marijuana Misuse/Abuse and Consequences

Prevalence

Risk Perception

• According to the National Survey on Drug Use and Health (NSDUH) 2014, marijuana is the most commonly used illicit drug in the United States, California, and Los Angeles County (LAC)¹.

• According to the NSDUH 2012-2013, among individuals age 12 and older, past month marijuana use in California is higher in males than in females².

• THC is the main psychoactive chemical in marijuana. The average THC content in federally seized marijuana increased 274% for cannabis leaf specimens from 1991 to 2015, and increased 290% for hash oil specimens from 1995 to 2015³.

• In 2012-2014, 8.4% individuals age 12 or older in LAC reporting using marijuana in the past month, compared to the national average of 7.7%, and state average of 9.2%. Marijuana use in LAC surpassed that of national use starting from 2008, but remained lower than the overall use in California¹.

• Past month marijuana use increases, peaks at age 18-19 years for females (16%) and 20-21 years for males (26.6%) and steadily decreases with age².

• Among US high school seniors, perception of occasional use of marijuana as a great risk declined 61.1% while past year use of marijuana increased 46.0% over the period 1991-2015⁴.

Drug-Impaired Driving

Healthcare Utilization

• Using alcohol or marijuana impairs driving and increases the risk of motor vehicle collisions¹¹.

• Emergency department (ED) visits with a marijuana-related primary diagnosis increased 256% from 334 cases in 2006 to 1,219 cases in 2015. ED visits involving marijuana in LAC increased 602% from 2,862 cases in 2006 to 18,601 cases in 2015⁶.

• According to the California Department of Public Health, in 2015, marijuana-related hospitalizations accounted for 18,601 discharges (116% increase from 2006), 94,501 days of hospitalization (82% increase from 2006), and \$681 million in hospital charges (177% increase from 2006; adjusted for inflation to 2016 US dollars)⁶.

• Driving or riding with a driver under the influence of marijuana exceeds drunk driving and riding with a drunk driver for high school seniors and college students¹²⁻¹³.

• The most common primary diagnoses among ED visits in 2006-2015 that involved marijuana included anxiety, psychosis, chest pain, altered consciousness, abdominal pain, depression, palpitations, suicidal ideation, drug or alcohol abuse, headache, convulsions, and nausea/vomiting⁶.

• Marijuana use is associated with the later development of mental illness, especially schizophrenia and psychosis^{8,14}.

• According to the Fatality Analysis Reporting System, traffic crash fatalities involving marijuana (positive drug test in driver) in LAC began to increase after 1996, steeply increased by 360% from 2003 to 2004, continued an overall increasing trend until 2008 before decreasing in 2009, and steadily increased again by 60% from 2010 to 2014⁵. These increases co-occurred with the passage of the Compassionate Use Act (allow medical marijuana use), the initiation of the Medical Marijuana Program (medical marijuana ID card program), and the decriminalization of marijuana (possession of <1oz reduced from misdemeanor to infraction), respectively.

• The most common primary diagnoses among hospitalizations in 2006-2015 that involved marijuana included schizophrenia-related disorders, depression, psychosis, bipolar disorder, drug or alcohol withdrawal, chest pain, and congestive heart failure⁶.

Early Onset and Dependency

Long-term Outcomes

Treatment

• Early and regular marijuana use is associated with use of other illicit drugs, including cocaine, hallucinogens, prescription opioids, stimulants, inhalants, tranquilizers, methamphetamine, sedatives, and heroin¹⁰.

• Addiction risk increases with greater frequency and with earlier age of initiation of marijuana use⁷.

• Most clients admitted to publicly funded SUD treatment programs in LAC are under 133%FPL, which tends to have much higher SUD rates than the general population.

• According to the NSDUH 2012-2013, individuals who first used marijuana before age 18 used other illicit drugs at a much higher rate than individuals who used marijuana after age 18 or individuals who never used marijuana during their lifetimes in California².

• Regular recreational marijuana use increases the risk of many adverse social, cognitive, and physical health outcomes^{9-10,12}.

• African Americans have the highest rate of treatment admissions with a primary marijuana choice across all age groups. The treatment admission rate for African Americans ages 18-25 years under 133%FPL was more than two times that of the same age group of Latinos (1,464 vs. 658 per 100,000 133% FPL population).

• Individuals who first used marijuana after age 18 used other illicit drugs at a much higher rate than individuals who never used marijuana during their lifetimes in California².

• Compared to never using marijuana, regular use of recreational marijuana was associated with a 2-fold lower educational attainment⁸, 8 point decline in IQ⁹, 2-fold increased risk for having psychosis, a 2-fold increased risk for developing lung disease, a 3-4 fold increased risk for getting a heart attack, a 2-3 fold increased risk in developing testicular cancer⁸.

1. Substance Abuse and Mental Health Services Administration. National Survey on Drug Use and Health. Marijuana Use in the Past Month among Persons Aged 12 or Older, by State and Substate Regions. <http://www.icpsr.umich.edu/icpsrweb/content/SAMHDA/help/nsduh-estimates.html>
2. Substance Abuse and Mental Health Services Administration. National Survey on Drug Use and Health. Survey Documentation and Analysis, Restricted Use Data Files online analysis system.
3. Drug Enforcement Administration. Strategic Intelligence Section. 2016 National Drug Threat Assessment Summary. 2016. <https://www.dea.gov/resource-center/2016%20NNTA%20Summary.pdf>
4. Johnston LD, et al. *Monitoring the Future national survey results on drug use: 1975-2015: Overview, key findings on adolescent drug use*. Ann Arbor: Institute for Social Research, The University of Michigan. 2016. <http://www.monitoringthefuture.org/pubs/monographs/mtf-overview2015.pdf>
5. Fatality Analysis Reporting System. National Highway Traffic Safety Administration. Query FARS data. <http://www.fars.nhtsa.dot.gov/QueryTool/QuerySection/SelectYear.aspx>
6. Office of Statewide Health Planning and Development (OSHPD). Emergency Department and Inpatient Discharge Data Sets 2006-2015. California Department of Public Health.
7. Volkow N, et al. Adverse health effects of marijuana use. *N Engl J Med*. 2014; 370:221-27. doi: 10.1056/nejrml402309.
8. Hall W. What has research over the past two decades revealed about the adverse health effects of recreational cannabis use? *Addiction*. 2014;110:19-35. doi:10.1111/add.12703
9. Meier MH, et al. Persistent cannabis users show neuropsychological decline from childhood to midlife.
10. Los Angeles County Participant Reporting System data. Substance Abuse Prevention and Control, Los Angeles County Department of Public Health.
11. Asbridge M, et al. Acute cannabis consumption and motor vehicle collision risk: systematic review of observational studies and meta-analysis. *BMJ* 2012;344:e536. doi:10.1136/bmj.e536
12. O'Malley PM, Johnston LD. Driving after drug or alcohol use by US high school seniors, 2001-2011. 2013; *Am J Public Health*. 2013;103:2027-2034. doi:10.2105/AJPH.2013.301246
13. Whitehill JM, et al. Marijuana-using drivers, alcohol-using drivers, and their passengers: Prevalence and risk factors among underage college students. *JAMA*. 2014;168(7):618-624. doi:10.1001/jamapediatrics.2013.5300
14. Casadio P, et al. Cannabis use in young people: The risk for schizophrenia. *Neuroscience and Biobehavioral Reviews*. 2011;35:1779-1787 doi:10.1016/j.neubiorev.2011.04.007