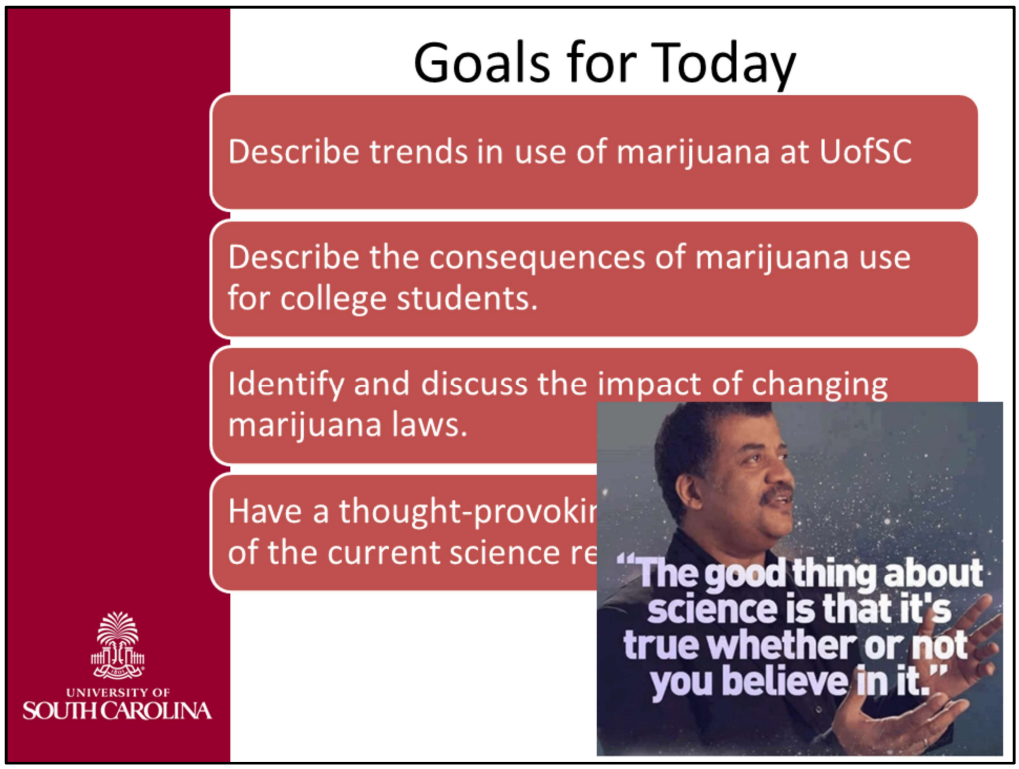
Carolina Community Coalition

University of South Carolina Student Life

APRIL 6, 2017

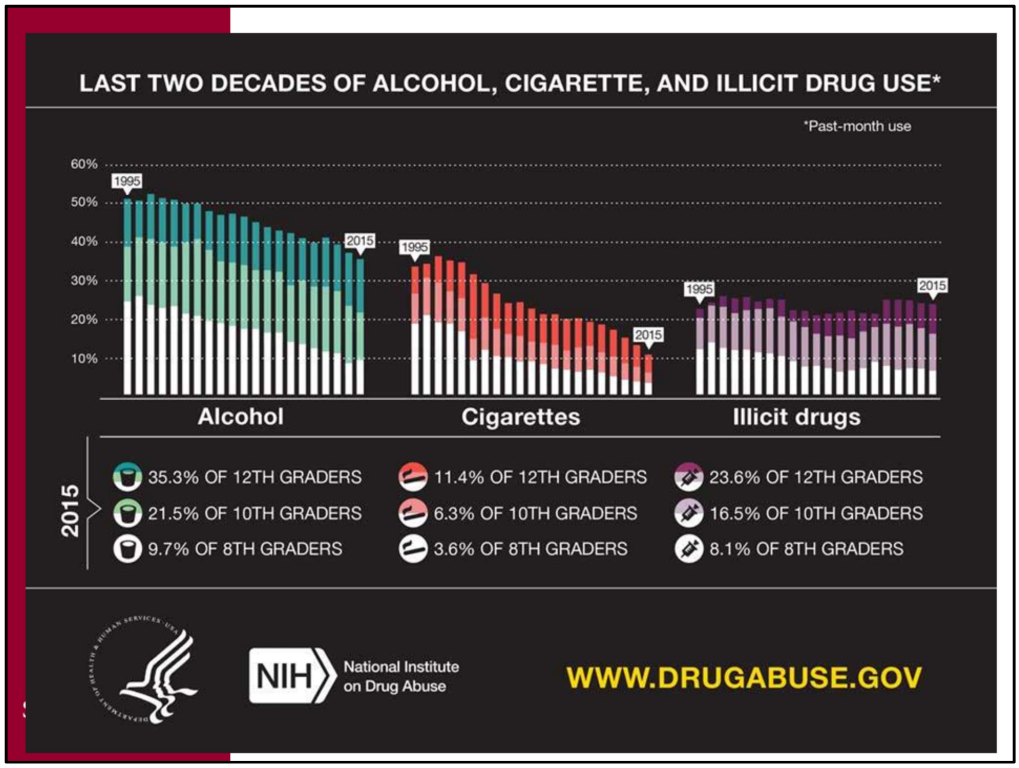
UNIVERSITY OF SOUTH CAROLINA

Marijuana:
What's the Risk?



Disclaimer: we will reference the science and be honest when we don't know or when the science isn't clear.
Disclaimer: we will use the terms cannabis, marijuana, weed, interchangeably.

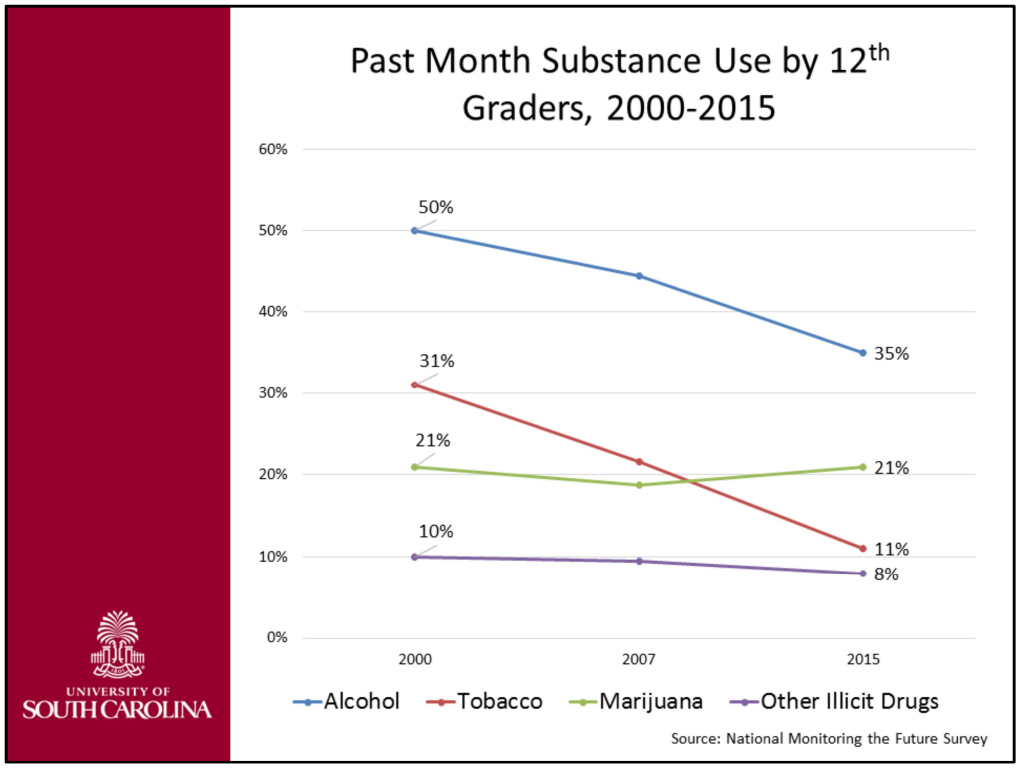
TRENDS IN USE



Aimee

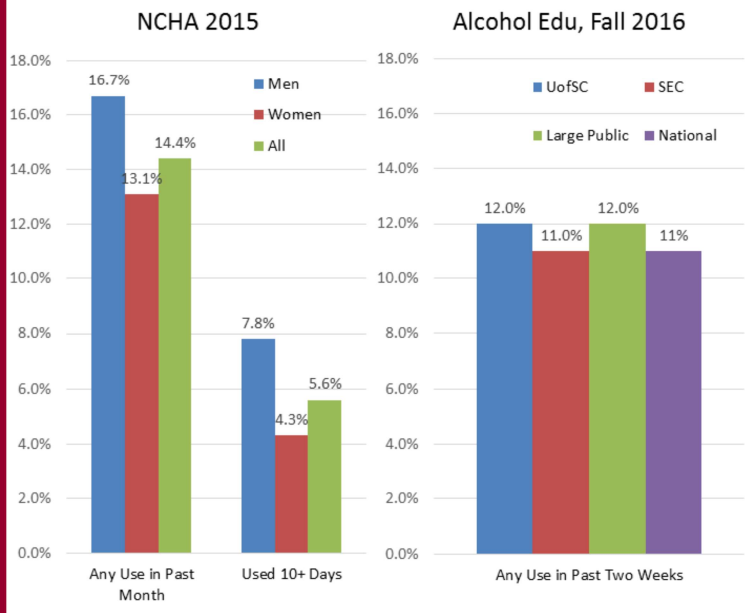
Overall, good news!

https://www.drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2015-survey-results



https://www.drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2015-survey-results

Marijuana Use at Carolina



NCHA 2015 Survey, n=1910; Alcohol Edu Survey #3, October 2016

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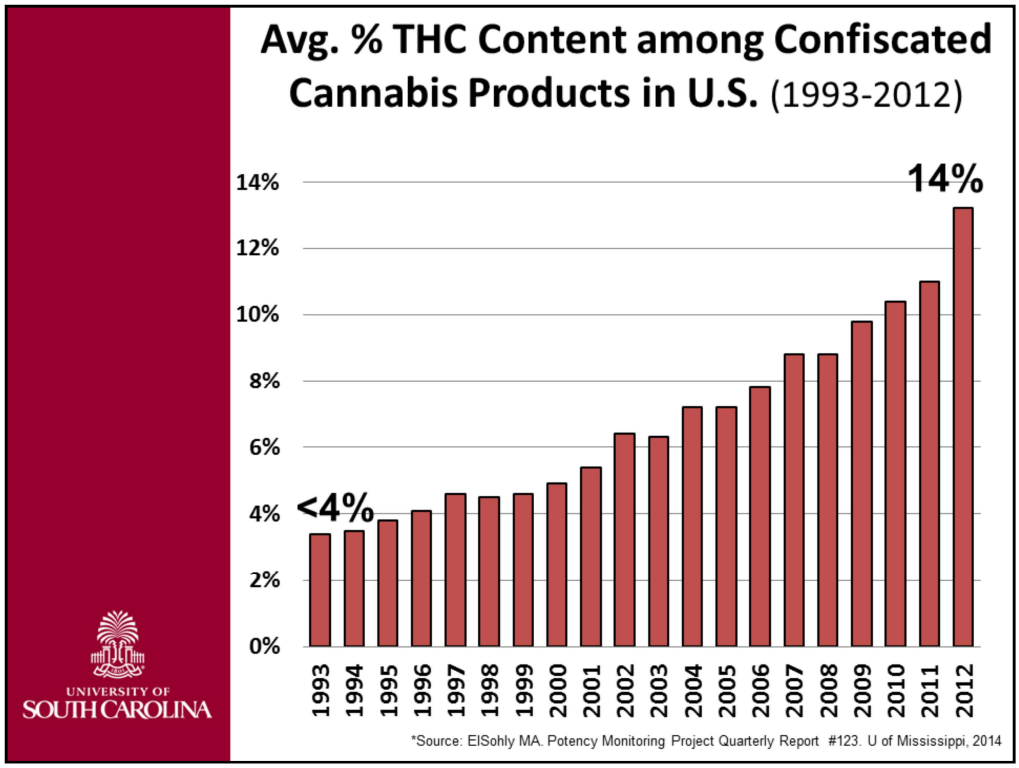
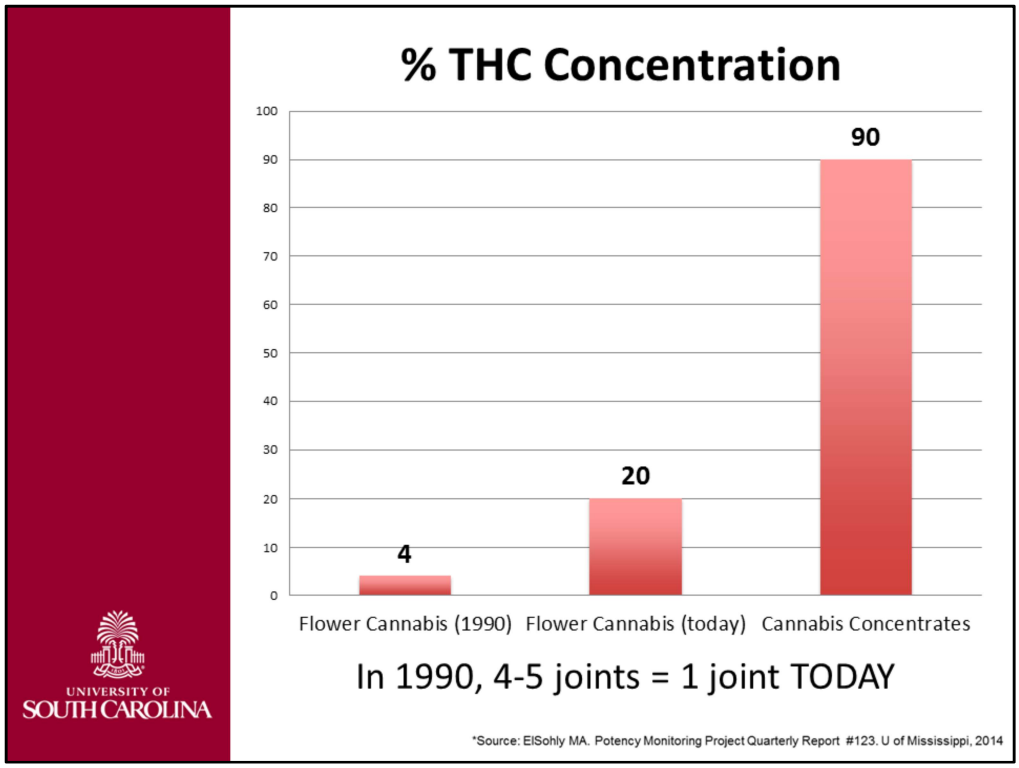
POTENCY & THC CONCENTRATION



University of Mississippi has had contract with NIDA for many years for the Potency Monitoring Program to analyze potency of cannabis products confiscated in the US. Number of samples tested across years range from 2283-4791. Taking out low or high outliers did not change trends.

Notes:
1) range across samples is often as large as the average.
2) Much of the increase over time is due to non-domestic samples, not domestic samples.
3) Limitations in variability in the age of samples.
4) Cannabidiol (CBD) content (found to have antipsychotic and antianxiolytic properties) is decreasing relative to THC content.
Marijuana refers to most prevalent cannabis product where buds or flowering tops have seeds.
Sinsemilla refers to flowering tops of unfertilized female plants



EMILY

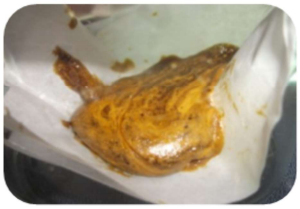
1990: 4 %

Today: 20%

Concentrates: 90%

What are Concentrates?

Kief



Earwax/Wax

BHO: Butane
Honey /Hash Oil

Shatter

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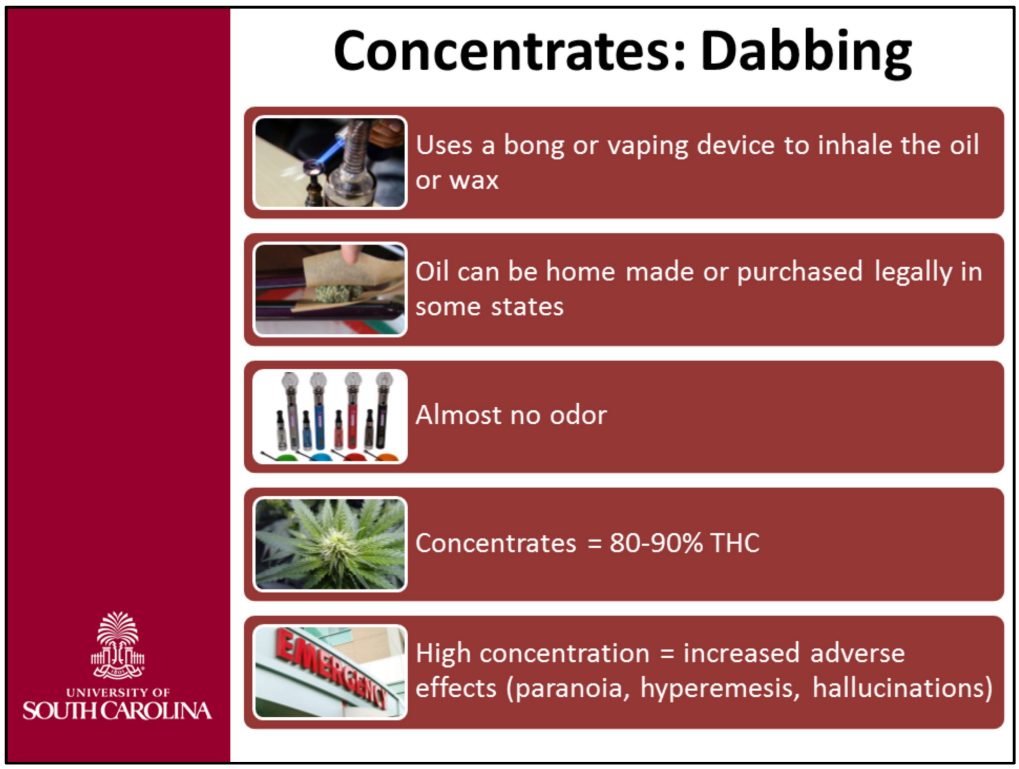
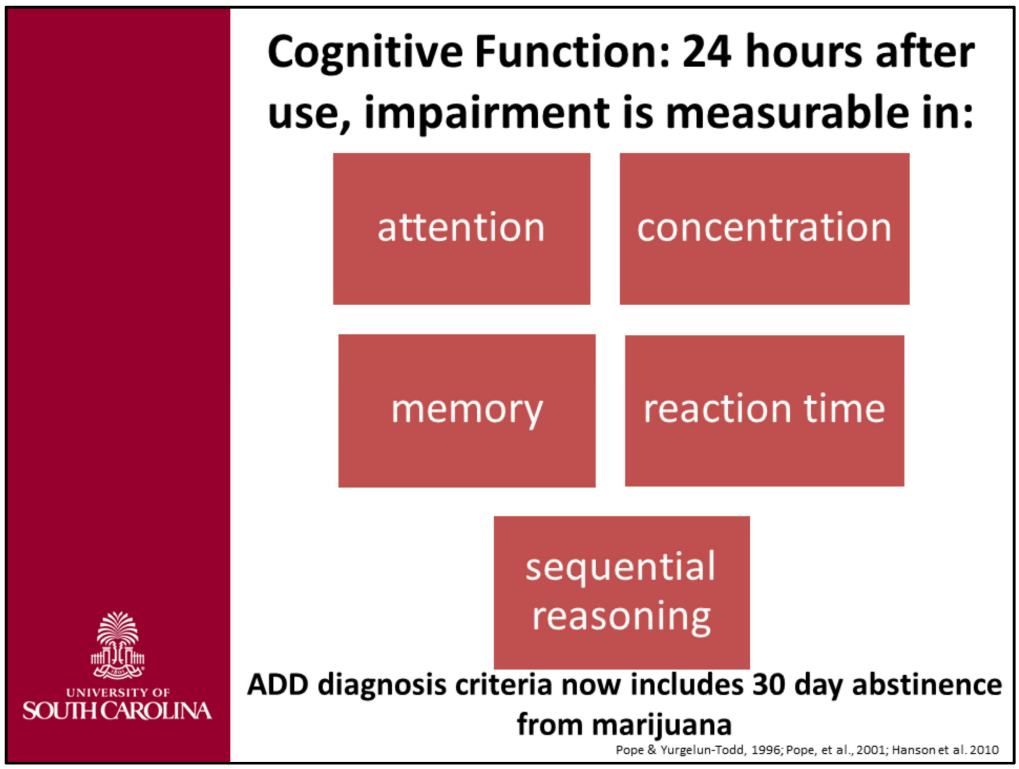


Dabbing allows the user to ingest a high concentration of Tetrahydrocannabinol (THC), the psychoactive ingredient in marijuana. Butane Hash Oil (BHO), an oil or wax-like substance extracted from the marijuana plant, is placed on a "nail" attached to a specialized glass bong called a "rig." A blow torch is used to heat the wax, which produces a vapor that can then be inhaled. This ingestion method means the effects of dabbing can be felt instantaneously.

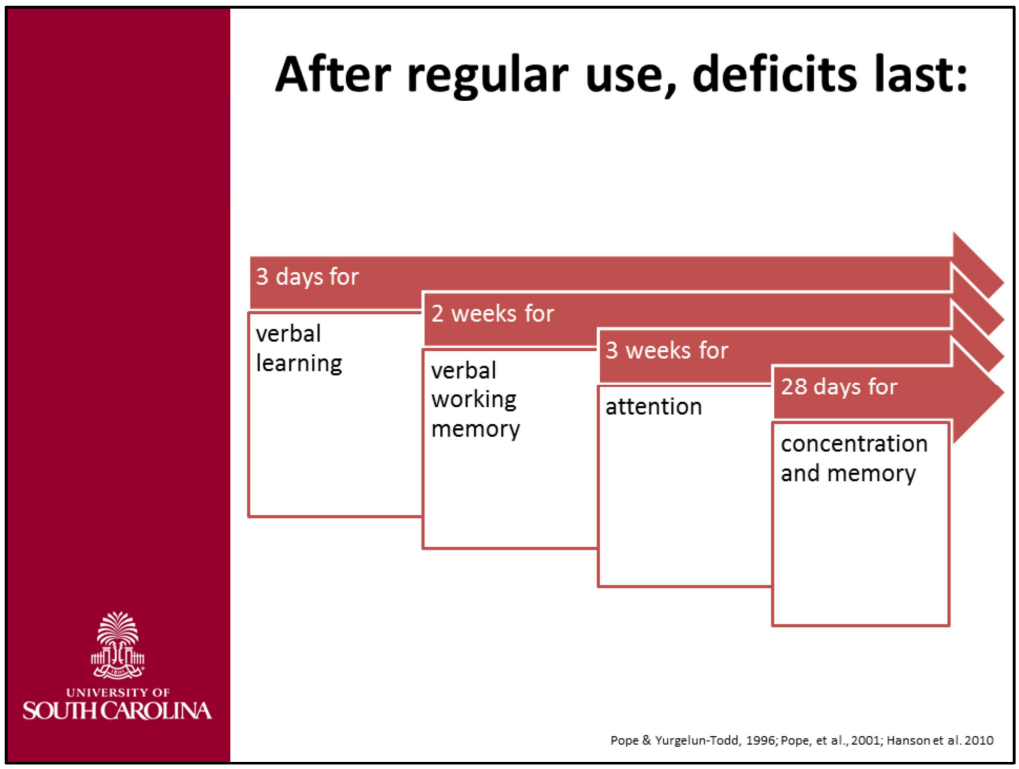
A practice related to dabbing includes placing hash oil in vaping devices, which look like e-cigarettes and don't emit any smoke. This decreases opportunities to get caught using hash oil, and gives individuals the opportunity to get high in increasingly public places.

Cognitive & Mental Health Risks



Marijuana impacts the hippocampus, which controls most cognition related to attention, concentration, and memory
Long term impairment of memory, attention, decision-making, executive function with chronic use
THC suppresses activity of hippocampal neurons below the level needed to trigger memory formation
These are abilities that are important for students who are trying to learn and study!

Pope & Yurgelun-Todd, 1996; Pope, et al., 2001; Hanson et al. 2010
http://learnaboutmarijuanawa.org/Reports/Marijuana_review_ReppRaich_Oct2014.pdf



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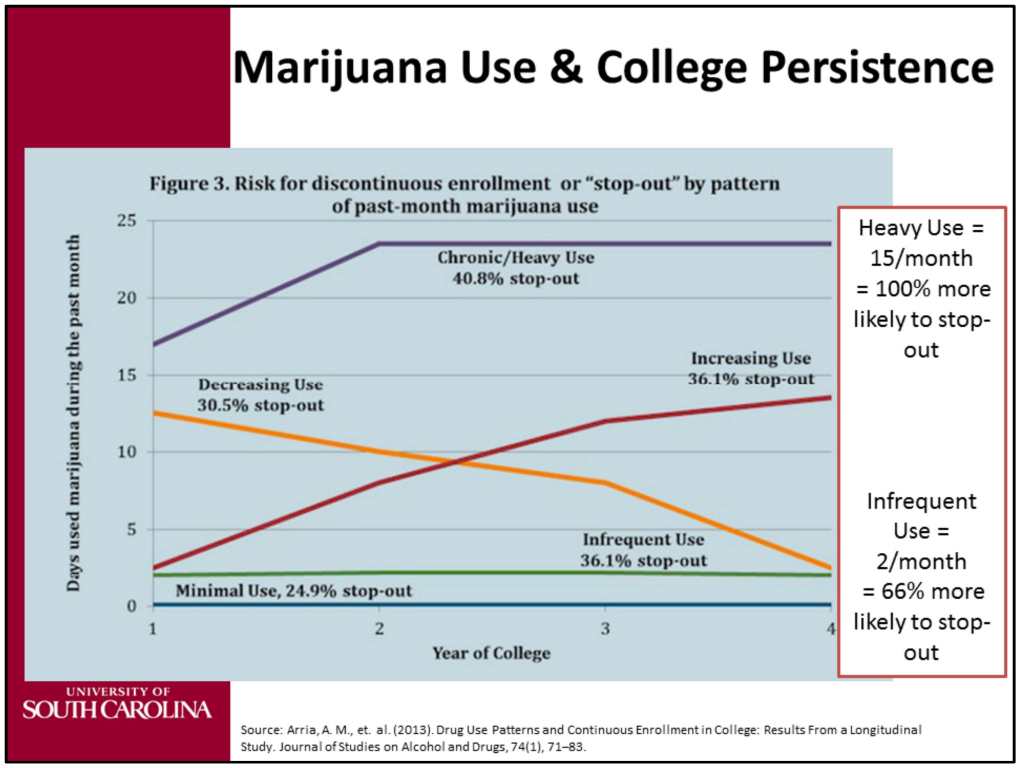
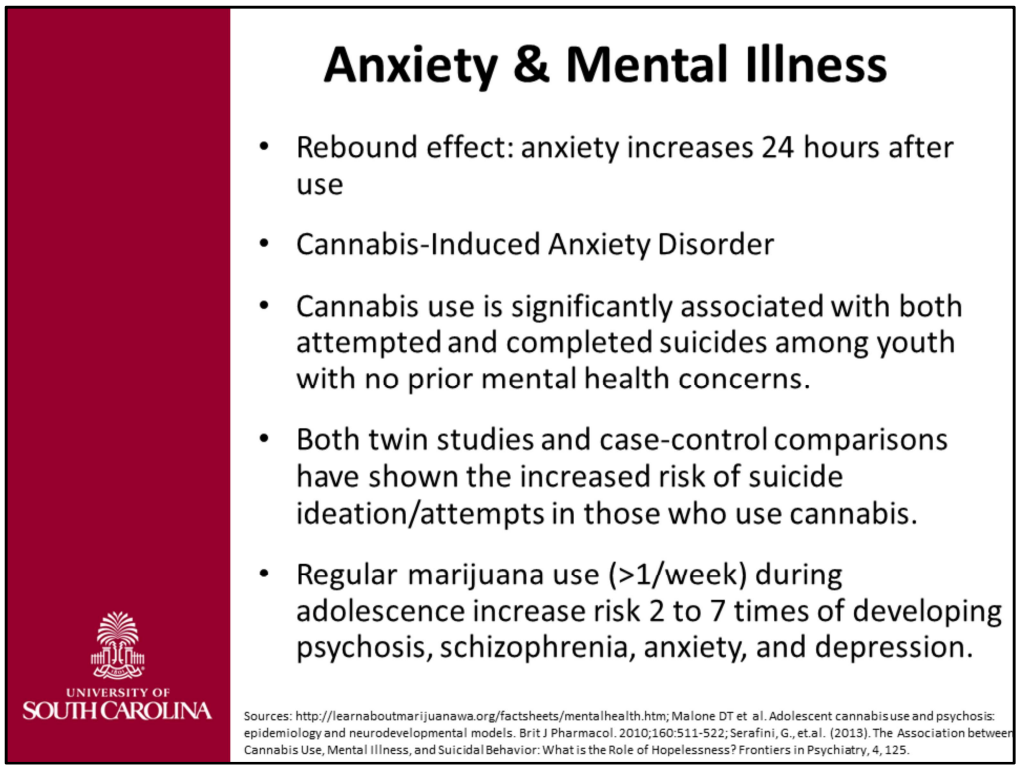


Aimee

Stop out = take at least one semester off from college.

http://college.usatoday.com/2013/06/06/study-marijuana-usage-increases-risk-of-academic-problems/

Arria, A. M., Garnier-Dykstra, L. M., Caldeira, K. M., Vincent, K. B., Winick, E. R., & O'Grady, K. E. (2013). Drug Use Patterns and Continuous Enrollment in College:Results From a Longitudinal Study. *Journal of Studies on Alcohol and Drugs*, *74*(1), 71–83.

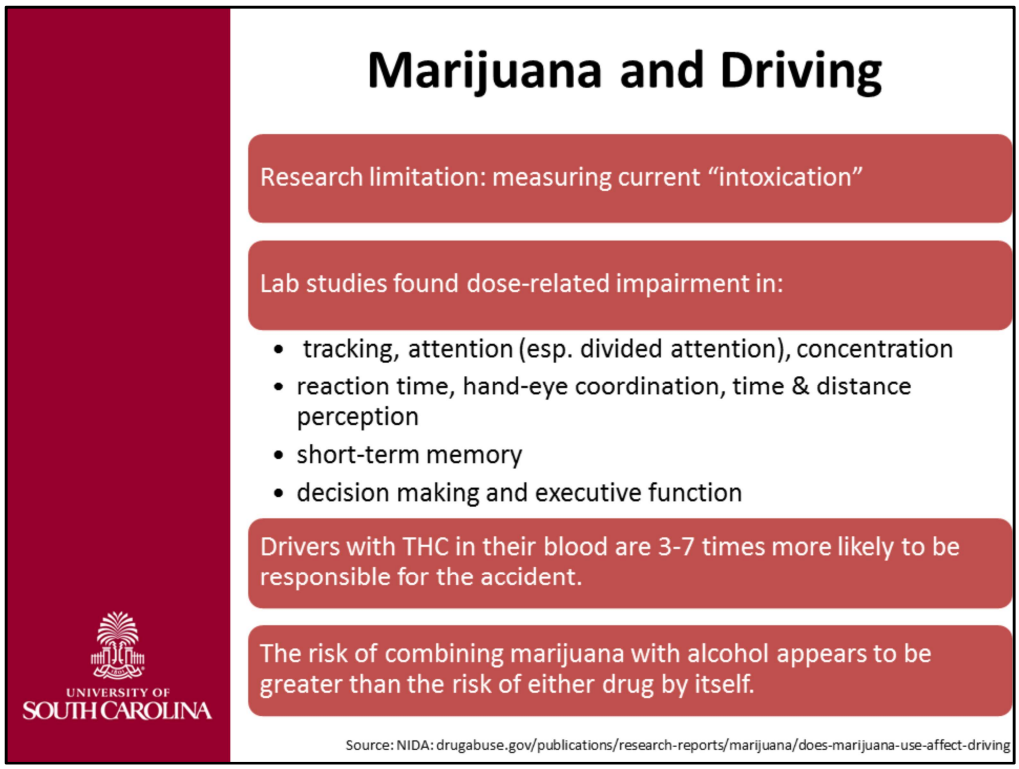


frequent or heavy marijuana use in adolescence is associated with the development of anxiety disorder in young adulthood
frequent use in teenagers predicts depression, as well as anxiety disorder, later in life, with daily users carrying the highest risk.

Several of these studies followed individuals from childhood (ages 6 or younger), before marijuana use began, all the way into their late 20's. So, they were able to determine whether symptoms of mental illness were present BEFORE marijuana use initiation, and perhaps contributed to individuals becoming marijuana users.

Even after controlling for the confounding effect of mental illness symptoms preceding marijuana use, these studies showed an increased risk of developing schizophrenia or mood disorders (depression, anxiety) in adulthood if individuals regularly smoked marijuana during adolescence. The risk was particularly heightened if there was any family history of mental illness (i.e., "genetics provided the loaded gun and marijuana pulled the trigger"). Also, mental illness, among those at risk, tended to show up earlier with marijuana use.

http://learnaboutmarijuanawa.org/factsheets/mentalhealth.htm
Serafini, G., Pompili, M., Innamorati, M., Temple, E. C., Amore, M., Borgwardt, S., & Girardi, P. (2013). The Association between Cannabis Use, Mental Illness, and Suicidal Behavior: What is the Role of Hopelessness? Frontiers in Psychiatry, 4, 125.
http://doi.org/10.3389/fpsyt.2013.00125

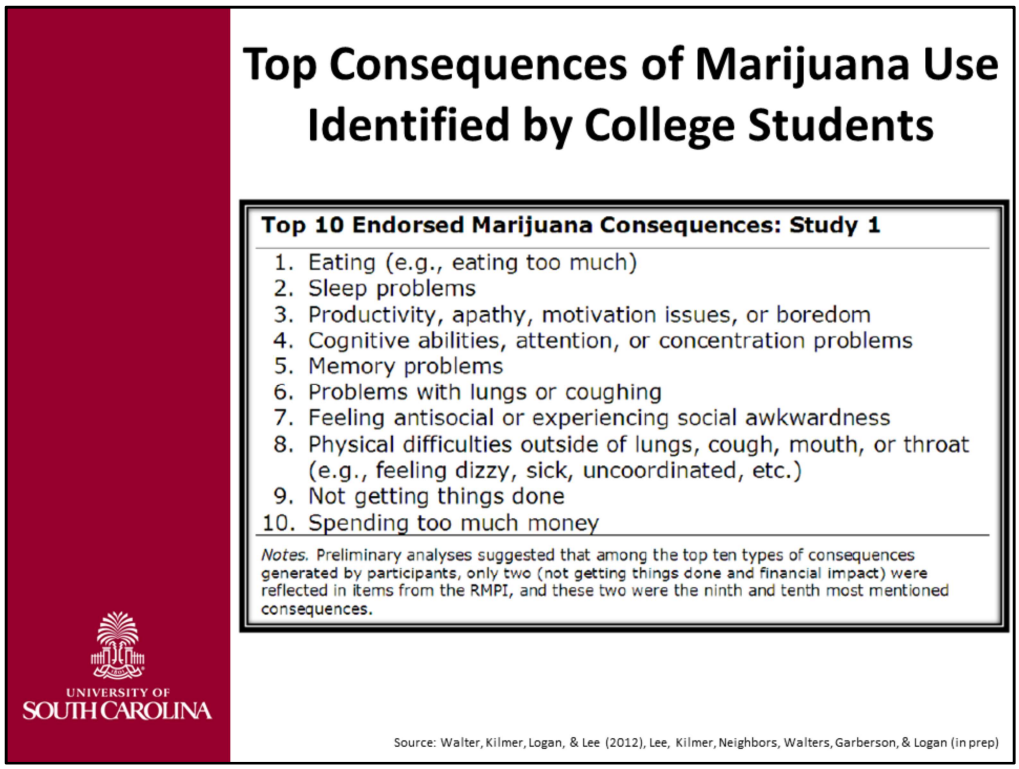


From https://www.drugabuse.gov/publications/research-reports/marijuana/does-marijuana-use-affect-driving
"Two large European studies found that drivers with THC in their blood were roughly twice as likely to be culpable for a fatal accident than drivers who had not used drugs or alcohol. However, the role played by marijuana in accidents is often unclear, because it can remain detectable in body fluids for days or even weeks after intoxication and because users frequently combine it with alcohol. Accident-involved drivers with THC in their blood, particularly higher levels, are three to seven times more likely to be responsible for the accident than drivers who had not used drugs or alcohol. The risk associated with marijuana in combination with alcohol appears to be greater than that for either drug by itself. Several meta-analyses of multiple studies found that the risk of being involved in an accident significantly increased after marijuana use—in a few cases, the risk doubled or more than doubled. However, a large case-control study conducted by the National Highway Traffic Safety Administration (NHTSA) found **no significant increased crash risk** attributable to cannabis after controlling for drivers' age, gender, race, and presence of alcohol."

From http://learnaboutmarijuanawa.org/factsheets/driving.htm
Three groups of studies have examined the relationship between marijuana use and driving performance: (1) laboratory studies, which investigate the effects of marijuana on skills used in driving; (2) driving simulator studies, which test the effects of marijuana use on driving car simulators designed to replicate actual driving conditions; and (3) field studies, which explore the degree to which marijuana use is responsible for motor vehicle accidents

in the real world.

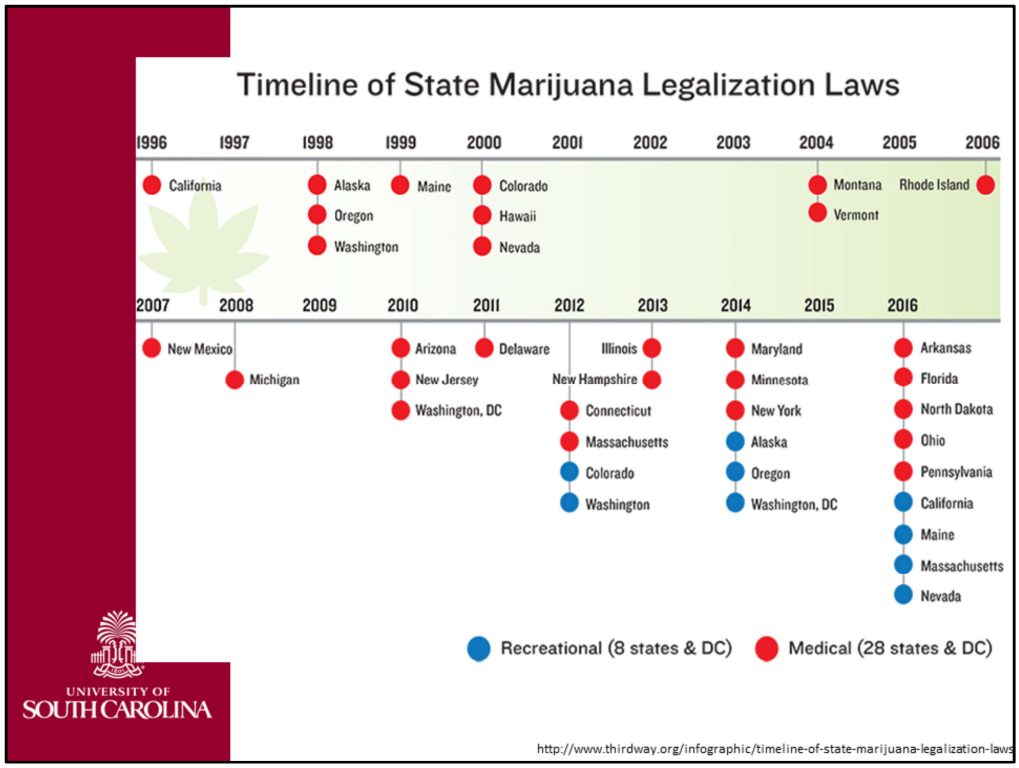
Source: Castle D, Solowij N. Acute and subacute psychomimetic effects of cannabis in humans. In: Castle D, Murray R, eds. Marijuana and Madness. Cambridge, UK: Cambridge University Press; 2004:41-53.

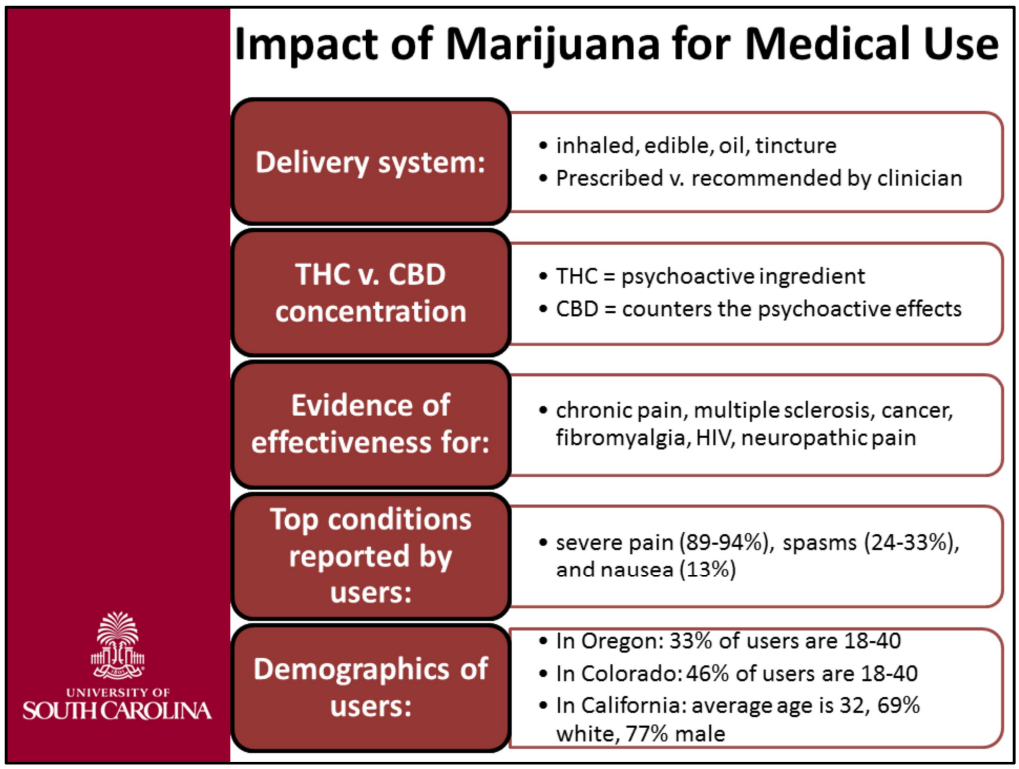


Possible entry points for conversation with students

Walter, Kilmer, Logan, & Lee (2012)
Lee, Kilmer, Neighbors, Walters, Garberson, & Logan (in prep)

IMPACT OF LEGAL CHANGES


Timeline of State Marijuana Legalization Laws
1996
California
1997
1998
Alaska
Oregon
Washington
1999
Maine
2000
Colorado
Hawaii
Nevada
2001
2002
2003
2004
Montana
Vermont
2005
Rhode Island
2006
2007
New Mexico
2008
Michigan
2009
2010
Arizona
New Jersey
Washington, DC
2011
Delaware
2012
New Hampshire
Connecticut
Massachusetts
Colorado
Washington
2013
Illinois
2014
Maryland
Minnesota
New York
Alaska
Oregon
Washington, DC
2015
2016
Arkansas
Florida
North Dakota
Ohio
Pennsylvania
California
Maine
Massachusetts
Nevada
Recreational (8 states & DC)
Medical (28 states & DC)
http://www.thirdway.org/infographic/timeline-of-state-marijuana-legalization-laws



Conditions reported least by users: HIV/AIDS, cancer, wasting syndrome, glaucoma

http://learnaboutmarijuanawa.org/factsheets/medicinalcannabis.htm

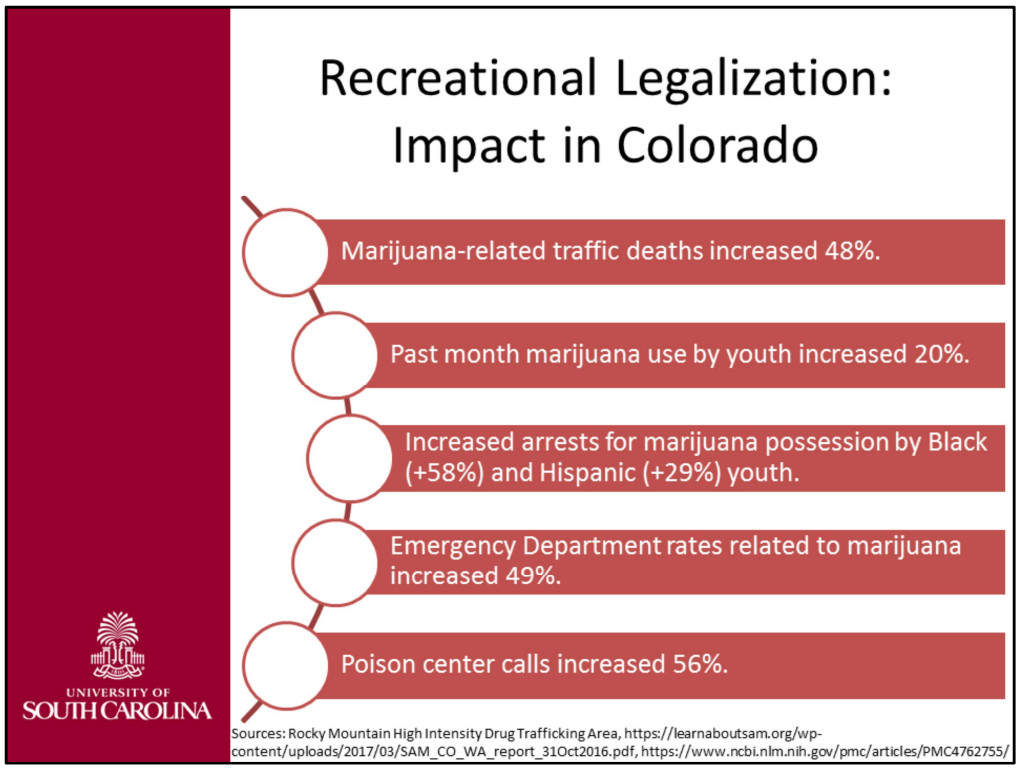
http://www.epilepsy.com/learn/treating-seizures-and-epilepsy/other-treatment-approaches/medical-marijuana-and-epilepsy

Cerdá, M., Wall, M., Keyes, K. M., Galea, S., & Hasin, D. (2012). Medical marijuana laws in 50 states: Investigating the relationship between state legalization of medical marijuana and marijuana use, abuse, and dependence. Drug and Alcohol Dependence, 120(1-3): 22-27.

O'Connell, T. J., & Bou-Matar, C. B. (2007). Long-term marijuana users seeking medical cannabis in California (2001-2007): Demographics, social characteristics, patterns of cannabis and other drug use of 4117 applicants. Harm Reduction Journal, 4(16). http://harmreductionjournal.biomedcentral.com/articles/10.1186/1477-7517-4-16

https://www.colorado.gov/pacific/sites/default/files/CHED_MMR_Report_December_2016.pdf

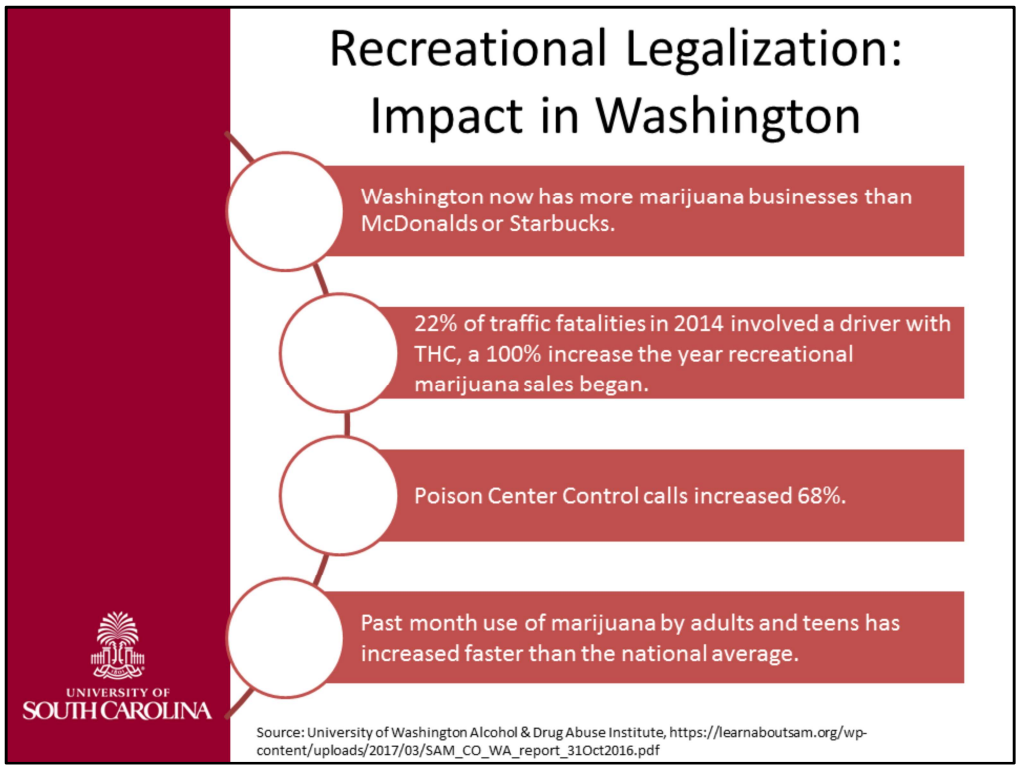
http://public.health.oregon.gov/DiseasesConditions/ChronicDisease/MedicalMarijuanaProgram/Pages/data.aspx



Marijuana-related traffic deaths increased 48 percent in the three year average (2013-2015) since Colorado legalized recreational marijuana compared to the three-year average (2010-2012) prior to legalization.
Youth past month marijuana use increased 20 percent in the two year average (2013/2014) since Colorado legalized recreational marijuana compared to the two-year average prior to legalization (2011/2012)
Increased arrests for marijuana possession by Black (+58%) and Hispanic (+29%) youth **while arrests of white youth for marijuana possession decreased by 8%.**
Emergency Department rates likely related to marijuana increased 49 percent in the two-year average (2013-2014) since Colorado legalized recreational marijuana compared to the two-year average prior to legalization (2011-2012).

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4762755/

https://learnaboutsam.org/wp-content/uploads/2017/03/SAM_CO_WA_report_31Oct2016.pdf



2012 Healthy Youth Survey
http://learnaboutmarijuanawa.org/factsheets/YAHS%20Marijuana.pdf
https://www.aaafoundation.org/cannabis-use-among-drivers-suspected-driving-under-influence-or-involved-collisions-analysis
http://adai.uw.edu/pubs/pdf/2016marijuanadriving_blooddraw.pdf
https://learnaboutsam.org/wp-content/uploads/2017/03/SAM_CO_WA_report_31Oct2016.pdf

Key Resources

Higher Education Center Cannabis Learning Collaborative: hecaod.osu.edu. Send email to sape@sc.edu for access.

Alcohol & Drug Abuse Institute from University of Washington: learnaboutmarijuanawa.org

Australia's Cannabis Prevention & Information Centre: ncpic.org.au

National Institute on Drug Abuse: drugabuse.gov

Smart Approaches to Marijuana: sam.org

The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research – NASEM Publication

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Key Updates: Merchant Outreach & Education

- First Bar Training: April 10th at 3pm
- Next steps:
  - Schedule additional training dates
  - Find establishments willing to host joint trainings

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Key Updates: Laws & Enforcement

- Creating a presentation about state and local alcohol laws for Coalition
- Developing a comprehensive data report on:
  - Drink specials, hospitalizations, conduct cases, location of last beverage, alcohol related crimes, Alcohol Edu.
- Monitoring impact of new city ordinances on high risk behavior
- Law enforcement partner Coalition recruitment

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Updates & Announcements

- SAPE
- SAVIP
- OSC
- UPD
- Any additions?

Questions & Answers

- Next Meeting: May 4th @ 4pm Russell #304
- Topic: Data & Statistics from Healthy Minds & Alcohol Edu

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