

Medical Marijuana



What HIV Providers Need To Know

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Training Collaborators

- Pacific AIDS Education and Training Center
 - Charles R. Drew University of Medicine and Science
 - University of California, Los Angeles
- Pacific Southwest Addiction Technology Transfer Center (HHS Region 9)
- UCLA Integrated Substance Abuse Programs



Educational Objectives


At the end of this training session, participants will be able to...

1. Describe the mechanism of action of marijuana.
2. Discuss marijuana's effects on health and its potential medical use.
3. Explain at least three reasons why individuals with HIV may use medical marijuana.
4. Discuss at least two strategies for effectively working with HIV patients who use medical marijuana.

A close-up photograph of a hand holding a yellow pencil, pointing at a multiple-choice test paper. The paper has several questions, each with four options labeled A, B, C, and D. The text is overlaid on the top left of the image.

Medical Marijuana and HIV: What Do You Think?

Test Your Knowledge Questions



Is the use of medical marijuana a problem at your clinic?

- A. Yes - clients/patients come to clinic stoned
- B. No
- C. Unsure/Undecided



What percent of your patients use marijuana?

- A. <5%
- B. 5-10%
- C. 11-30%
- D. 31-50%
- E. over 50%



Your patients use marijuana mostly for...

- A. Physical symptoms
- B. Mental health symptoms
- C. To get high
- D. Other



#1: Marijuana has been shown to harm developing fetuses

- A. True
- B. False



#2: Marijuana is better than medicine for HIV-related symptoms

- A. True
- B. False
- C. Not necessarily



#3: If you are caught with marijuana in California and claim you are using it for medical reasons, you cannot be arrested

A. True

B. False

C. It depends who catches you



#4: Marijuana is proven to be effective in treating symptoms associated with HIV

- A. True
- B. False
- C. Unsure



Roadmap for the Training

Part 1: Understanding marijuana

Part 2: Medical marijuana

Part 3: Medical marijuana and HIV

Part 4: How to work with HIV patients who use medical marijuana



Part I

Understanding Marijuana





“Marijuana”

What Do You Think?

- When you think of marijuana, **what comes to mind?**
- When you think of marijuana users, **what kind of people come to mind?**
- When you think of marijuana and marijuana users, **are your thoughts positive, negative, or mixed?**

Who Uses Marijuana?

- Joe (23 years old)
 - First used at a party when he was 15, continued using through college
 - Now uses when he goes out or is playing video games with friends
 - Also uses when he's stressed out
 - On average, uses about four-five times/week



Who Uses Marijuana?

- Maria & Terry
(46 & 48 years old)
 - Used in college; stopped when she got pregnant
 - Now smoke socially and when they go to concerts
 - Maria uses when work stresses her out
 - Terry uses for pain stemming from HIV-related neuropathy



Who Uses Marijuana?

- Elise (78 years old)
 - Never used marijuana until she turned 63
 - First used to improve her appetite during chemotherapy for breast cancer
 - Cancer has returned and metastasized to her spine.
 - Conventional painkillers don't work; now uses several times a day for pain relief





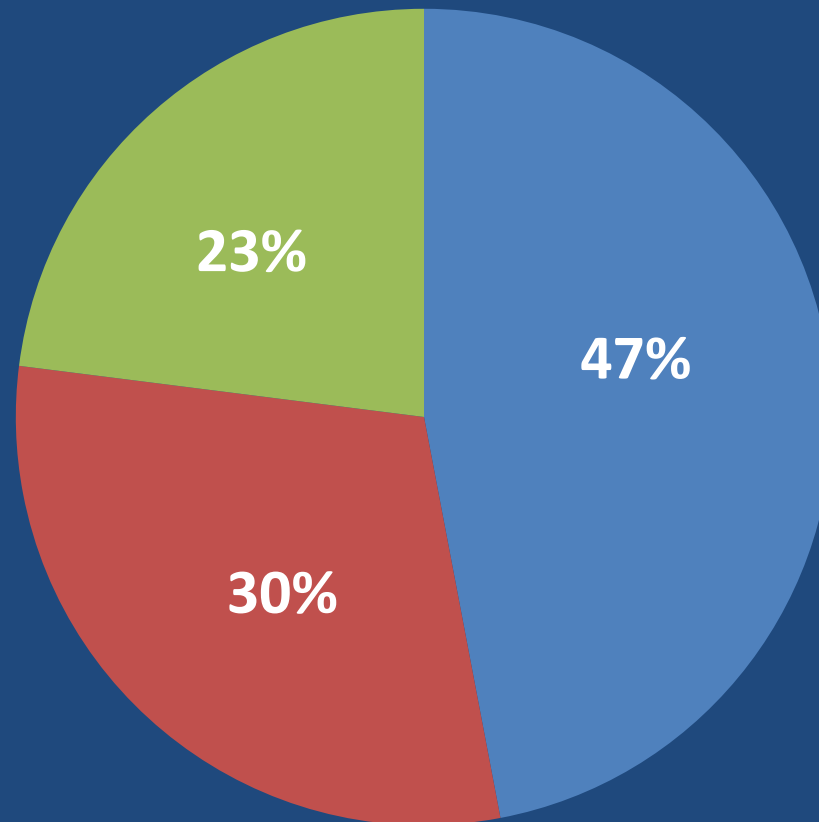
Marijuana Use is Common

- Marijuana is the most commonly used illicit drug in the U.S.
- Any use among general population age 12+ in past month:
 - 2011: 7%
 - 2008: 5.8%
- Use is most common among people age 18-25 (19% of population)
- 48% of adults in the US report having used marijuana at some time in their life

Why Do People Use Marijuana?

Among people who used marijuana in the past year:

■ For Fun ■ For Medical Reasons ■ For Fun and for Medical Reasons



Marijuana: What is it?

- Dry, shredded mix of leaves, flowers, stems, and seeds, usually from *Cannabis sativa* or *Cannabis indica* plant
- Both are common subspecies of the **hemp plant**, which is common throughout the world
- Contains **over 400 chemical compounds**
- **Common names:** grass, weed, pot, reefer, Mary Jane, ganja



How is Marijuana Used?

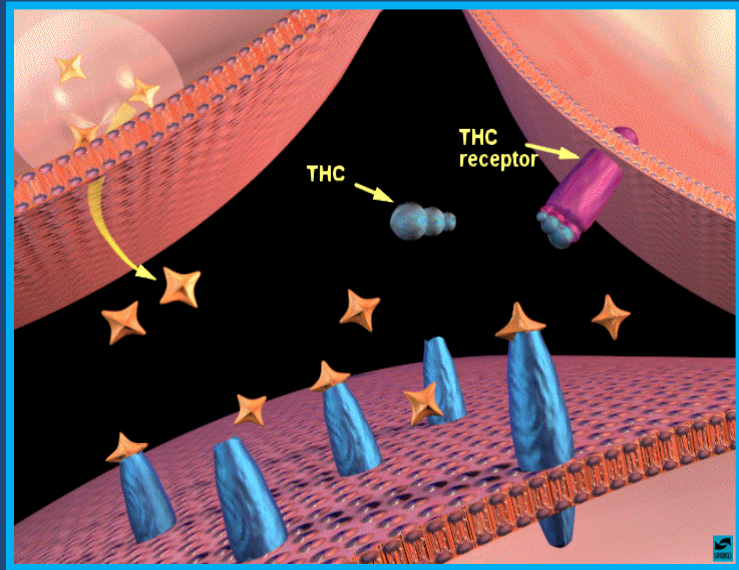
SMOKED	VAPORIZED	EATEN/DRUNK
Smoked in a pipe, bowl, cigarette	Inhaled through machine that converts active compounds into inhalable form	Consumed as ingredient in baked goods, candies, sodas
Rapid effects	Rapid effects	Takes time to reach brain, so effects are delayed
Burning marijuana releases toxins that can cause pulmonary problems	Does not release toxins that cause pulmonary problems	Does not release toxins that cause pulmonary problems

Marijuana: Other Forms

- Hashish
 - Compressed resin of cannabis plant
 - More concentrated and potent than marijuana plant
- Hash Oil (“Wax”)
 - Psychoactive chemicals extracted from cannabis plant with butane
 - Three to four times as potent as marijuana plant
- Synthetic Marijuana (“Spice”, “K2”)
 - Herbal and chemical mixtures that produce experiences similar to marijuana
 - The five most common active chemicals in synthetic marijuana are now illegal in the U.S.

Marijuana: How Does it Work?

- Contains **over 60 cannabinoids**: main active chemical is Δ -9-tetrahydrocannabinol (THC)
- Stimulates “high” by triggering receptors in parts of brain that influence **pleasure, memory, thinking, concentration, coordination**
- THC’s molecular structure is similar to that of neurotransmitters that affect cannabinoid receptors (**affect pain, appetite, vomiting reflex**)
- Effects generally **last 1-4 hours**



Marijuana: Immediate Effects

Altered Mood	Reduced Anxiety
Cognitive Impairment (Attention, Judgment)	Sedation/Drowsiness
Altered Perception	Sensory Intensification
Impaired coordination/balance	Increased heart rate
Hunger	Hallucinations (in large doses)

- Effects can vary by strains
 - *Sativa*: More euphoria, stress relief
 - *Indica*: Relaxation, physical (especially pain) relief
 - *Sativa* and *Indica* often combined, leading to variable effects



Marijuana: Negative Effects on Behavior and Mental Health

- Similar to alcohol/other drugs if misused (impairment)
- Long term use has negative impact on learning and memory
- Long term use reduces motivation (“amotivational syndrome”)
- Associated with mental health problems
 - Unclear if marijuana use is cause or effect
 - Heavy use is highly associated with serious mental illness – particularly among those with high risk (e.g., family history)



Marijuana: Negative Effects When Smoked

- Can lead to respiratory illness
 - One marijuana cigarette causes as many pulmonary problems as **4-10 tobacco cigarettes**
 - Increased risk for **bronchitis, emphysema, lung cancer**
- Can cause cardiovascular complications
 - **Raises** blood pressure & heart rate **20-100%**
 - **4.8 times risk** of heart attack in hour after use



Marijuana: Negative Effects in Pregnancy

- There is increasing evidence that prenatal exposure may result in:
 - Increased risk of **motor, social, and cognitive disturbances.**
 - Higher rate of **low birth weight infants, and childhood leukemia**
- Marijuana has been found in breast milk although **levels are generally considered subclinical.**



Marijuana: Why Start Using It?

- To get high
 - Fun
 - New experiences
- To fit in
- To socialize
- To cope with physical/emotional discomfort

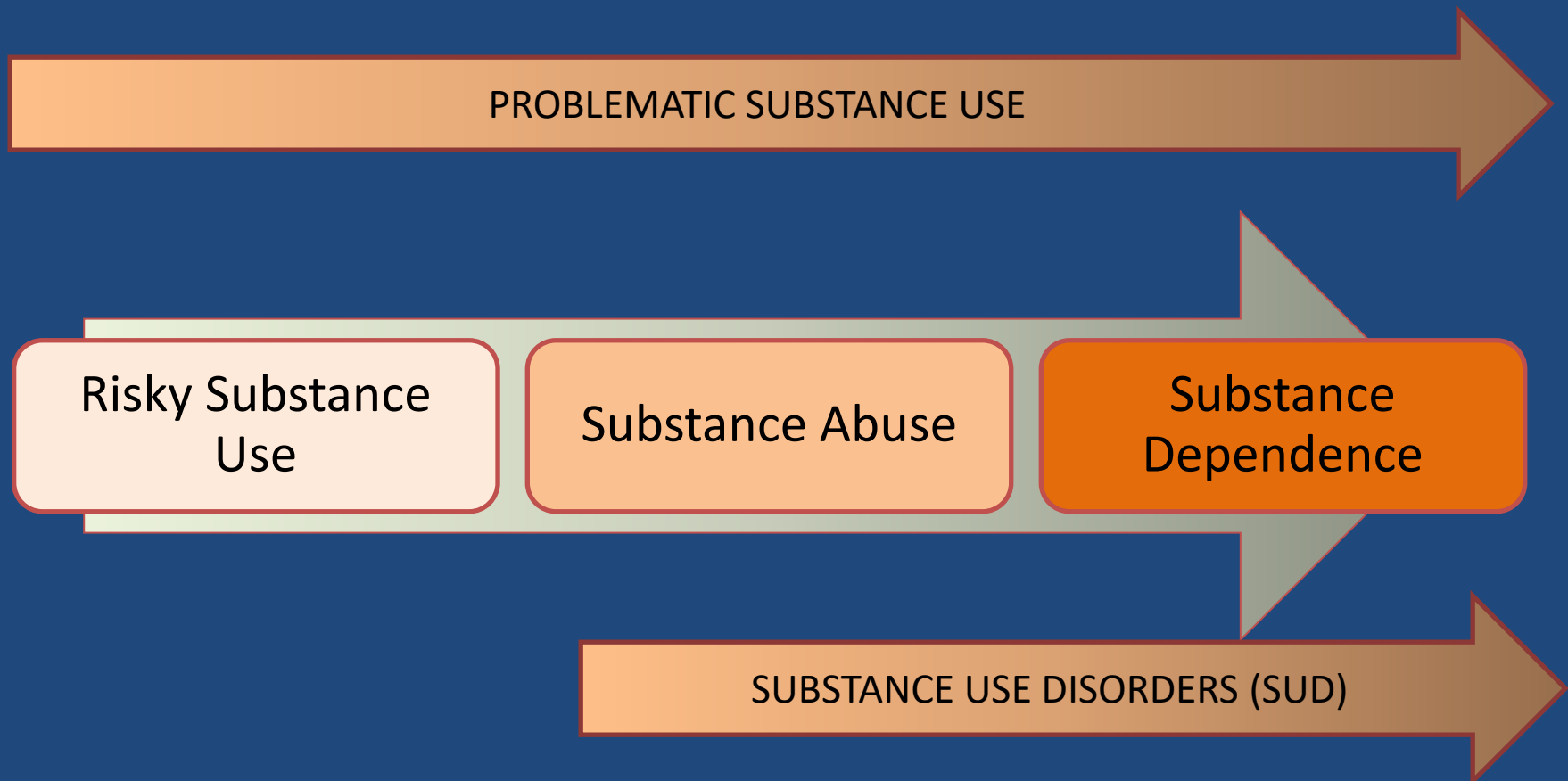


Marijuana: Why Keep Using It?

- Rely on it to alleviate mental/emotional distress
- Like it, it's fun
- Use socially/to fit in
- Rely on it to alleviate physical pain/discomfort or sleep problems
- Habit/fear of stopping
- Most people who continue using marijuana use it for many of these reasons

Marijuana Abuse/Dependence

- SUD fall on a continuum of alcohol and drug use





Marijuana: Potential for Abuse/Dependence

- Regular and prolonged use can **change the way the brain works**, leading to abuse or dependence
- Marijuana abuse/dependence **most common among individuals with mental health disorders**
- In 2011, **22.9%** of people in US who received addiction treatment **received treatment for marijuana use disorders**
- Average adult entering treatment for marijuana abuse/dependence has **used daily for ten years, tried to quit six times**

Marijuana Abuse/Dependence

DRUG	LIFETIME RISK OF DEPENDENCE
Nicotine	32%
Heroin	23%
Cocaine	17%
Alcohol	15%
Marijuana	9%



Marijuana Abuse/Dependence

- Most individuals use marijuana **without developing SUD.**
- However, because use is so widespread, **more people use marijuana problematically than other drugs.**
- In Los Angeles County, **marijuana use accounts for more substance use disorders treatment admissions (23.3%) than any other drug, including alcohol (22%).**



Marijuana: Signs of Abuse/Dependence

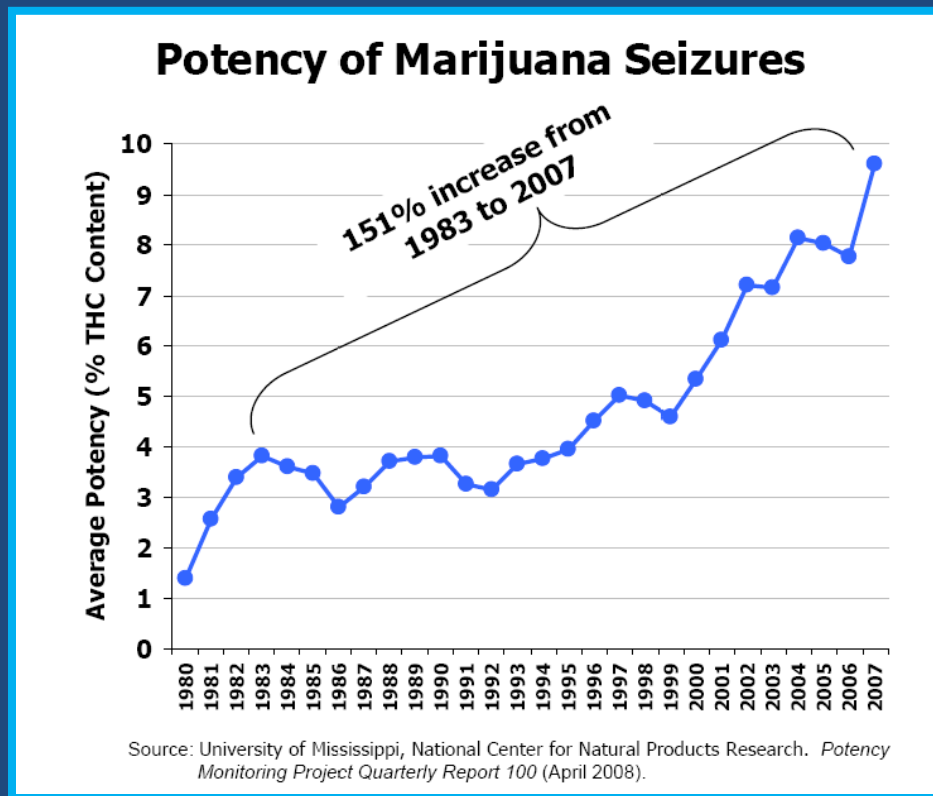
- Tolerance/withdrawal
 - Anger or Aggression
 - Decreased Appetite / Weight Loss
 - Irritability
 - Nervousness / Anxiety
 - Restlessness
 - Sleep Difficulties / Strange Dreams
- Preoccupation
- Loss of control
- Continued use in the face of adverse consequences
- Cognitive distortions/denial



Marijuana Abuse/Dependence Treatment

- Treatments are behavioral
 - Motivational Enhancement Therapy
 - Cognitive Behavioral Therapy
 - Contingency Management
 - Family-based Treatment
- Only **10-30% success rate** in achieving abstinence from marijuana after one year
- **No medications available**, but drugs to treat withdrawal symptoms in development

“It’s not your dad’s ‘pot’ anymore”



- Marijuana growers have worked to make the drug **as potent as possible**.
- In 1960s-70s average THC concentrations were 1-2%. Today, they are **as high as 20%**



Part II

Medical Marijuana



How Can Marijuana be a Medicine?

- Marijuana affects:
 - Pleasure/relaxation
 - Memory/thinking
 - Coordination
 - Pain Control
 - Appetite
 - Vomiting Reflex



- What medical problems do you think this would be helpful for?



Marijuana's Medical Potential: Research Evidence

- Reduces nausea
- Stimulates appetite
- Pain relief
- Controls muscle pain, spasms
- Reduces tics (Tourette's Syndrome)
- Reduces convulsions (epilepsy)




Marijuana's Medical Potential: Ongoing Clinical Trials

- Studying potential of marijuana and marijuana-based medications to treat:
 - Multiple Sclerosis
 - High Heart Rate
 - Non-Cardiac Chest Pain
 - Chronic Obstructive Pulmonary Disease
 - Sickle Cell Disease
 - Spinal Cord Injury Pain
 - Inflammatory Bowel Disease (Crohn's disease)
 - Liver Problems
 - Cancer-Related Pain
 - Brain Tumors
 - Dementia
- Many of these trials on individuals with multiple physical and/or mental health problems




Different Kinds of Marijuana-Based Medicine

- Botanical cannabis (plant): “Medical Marijuana”
- Synthetic THC medications available in U.S. for nausea/appetite stimulation:
 - Dronabinol (Marinol[®]) (FDA approved for HIV)
 - Nabilone (Cesamet[®]) (FDA approved for cancer; HIV off-label)
- Other medications not available in U.S.:
 - Nabiximols (Sativex[®]) THC/cannabidiol mouth spray for pain relief, muscle spasms; currently being investigated by FDA
 - Rimonabant (Accomplia[®], Zimulti[®]) for treatment of obesity and nicotine dependence
(selective cannabinoid receptor-1 blocker)



Medical Marijuana vs. THC Medications: Is Medical Marijuana Better?

- THC medications still have psychoactive effects (make you high)
- There are chemicals in medical marijuana that moderate THC's psychoactive effects
 - These chemicals are not present in medications
- Medical marijuana is cheaper
 - Not made/patented by pharmaceutical industry




Medical Marijuana vs. THC Medications: Is Medical Marijuana Better?

- Smoked medical marijuana takes effect in minutes; THC medications take over an hour
 - Instant feedback allows users to take more if needed for relief
 - Due to rapid relief, may consume less if smoked
- When swallowed, THC absorption is more erratic, and less concentrated
 - THC effects more unpredictable and variable, possibly less effective



Medical Marijuana vs. THC Medications: Are THC Medications Better?

- Medical Marijuana is **not** FDA approved
 - FDA approval assures that medications are effective, safe, and properly labeled
 - FDA **cannot evaluate** medical marijuana as a drug since it is a plant, **not a standardized medical formulation**
 - Medical marijuana is **different everywhere**, depending on how it is bred, under what conditions it is grown, etc.
 - No way to know if medical marijuana is pure. **Can be contaminated by pesticides, mold, fungus.**



Medical Marijuana vs. THC Medications: Are THC Medications Better?

- Difficult to approve something that is smoked as “medicine”
 - Negative effects of smoking
 - Depending on type of marijuana, can undergo different types of chemical changes when burned
 - No standard measurement of dosage (inhalations vary by the individual, unlike pills)

Medical Marijuana vs. THC Medications

Advantages of Medical Marijuana	Advantages of THC Medications
Chemicals that moderate THC's psychoactive effects	FDA approved
Less expensive	Standardized medical formulation
More immediate relief	Purity
Instant feedback allows for moderation, possibly less consumption	Not smoked
Less erratic absorption than THC medications	Standardized dosing

Medical Marijuana vs. THC Medications

ACCORDING TO FEDERAL LAW, MARIJUANA IS ILLEGAL



How can marijuana be used as a medicine
while it is illegal?

Medical Marijuana and Federal Law



- Controlled Substances Act (1970)
 - Marijuana is a Schedule I drug:
“No currently accepted medical use”
 - No legal distinction between medical and recreational use
- Up to 1 year in federal prison, \$100,000 fine for first possession offense
- Up to 5 years in federal prison, \$250,000 fine for first manufacturing offense

Medical Marijuana and Federal Law

- Supreme Court ruled that **medical necessity is no excuse to break federal law** (2001)
- FDA affirmed **smoked marijuana is not considered medicine** (2006)





Marijuana and its Derivatives as Medicine: Federal Law

- Investigational New Drug Program
 - Individuals could apply for marijuana from the federal government
 - Under 100 patients given marijuana in program
 - Large numbers of people with HIV/AIDS applied
 - Program shut to new enrollees in 1992 due to high demand
 - Handful of people still getting drug through program today
- Dronabinol (Marinol[®]) approved by FDA for cancer chemotherapy (1985) and HIV/AIDS (1992)
- Nabilone (Cesamet[®]) approved by FDA 1985, became available for cancer chemotherapy in 2006




Medical Marijuana and State Law

- 18 states and the District of Columbia allow for the use of marijuana medically
 - Through votes in state legislatures
 - Through ballot measures
- An unconventional approach to making decisions about medicine
 - Only drug approved for medical use through political process rather than scientific trials and research
- Over 200,000 individuals in California obtain marijuana through medical marijuana dispensaries
 - In 2010, 69% of medical marijuana users in US were in California




Medical Marijuana and State Law: California

- California Compassionate Use Act (1996)
 - Approved as Proposition 215 **by 56% of California voters**; amended in 2003 by SB 420
 - First medical marijuana law and the **most open to interpretation**
 - Legalized **for treatment of many medical conditions** (including HIV/AIDS) and “*any other illness for which marijuana provides relief*” (open to broad interpretation)



Medical Marijuana and State Law: California (continued)

- California Compassionate Use Act (1996)
 - Removed state penalties for use, possession, or growth with a physician's recommendation
 - Allows possession of amount needed for personal medical purposes (8 oz dried marijuana, 6 mature marijuana plants)
- CA Medical Marijuana Program administers the Medical Marijuana Identification Card program
 - The ID card is voluntary and there is a fee for registering
 - The intent is to help law enforcement and qualified patients by creating an official ID that is recognized throughout the state.

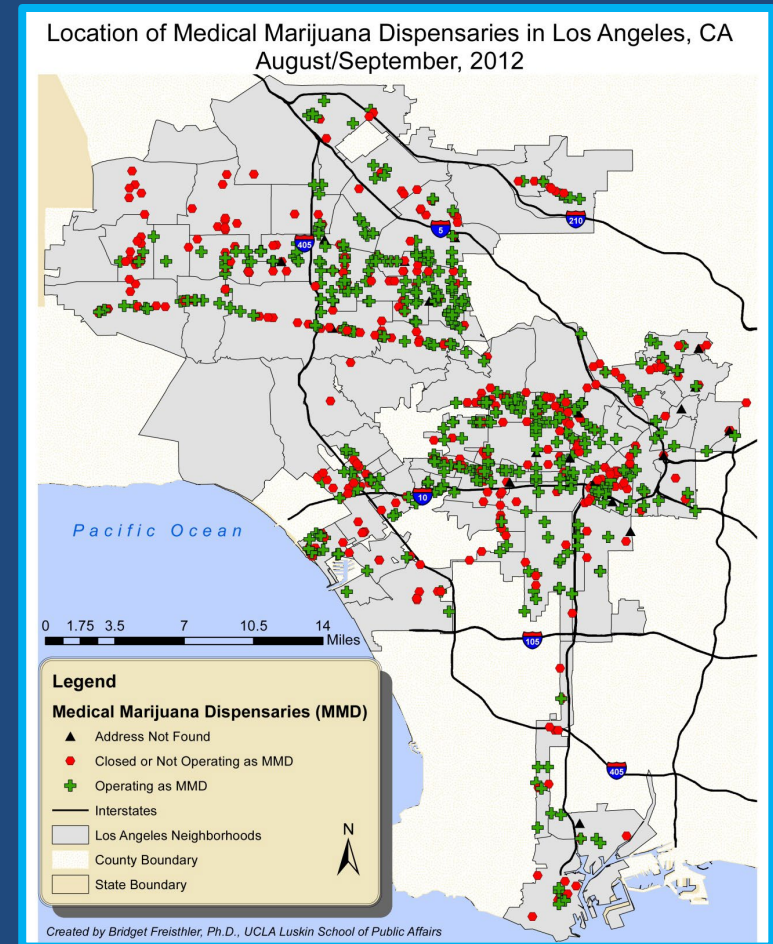


Medical Marijuana and State Law: California (continued)

- Unlike other medications, doctors do not prescribe amount of marijuana, number of refills, content of medication, or route of administration
 - Dispensary staff often recommend specifics
- Doctor simply recommends the drug after one visit
 - Cost of a visit generally \$40-\$100
 - Patients obtain a “recommendation” for medical marijuana
 - Grow marijuana personally, or purchase it at marijuana dispensaries
- Doctor does not have to monitor patient progress (e.g., response to medicine, changes in symptoms)

Medical Marijuana Dispensaries in Los Angeles County

- Medical marijuana dispensaries developed as a means to **cultivate and distribute** medical marijuana
- In 2007, the City of Los Angeles capped the number of licensed dispensaries at **187**
- **Thousands of unregulated dispensaries** still operate
- Because of conflicts over land use and zoning, **marijuana delivery services** have developed




Federal Law vs. State Law: What Does it Mean?

- Most drug arrests are made by local/state law enforcement, who enforce state laws
 - Local/state law enforcement in CA operates under Compassionate Use Act (allows for medical marijuana)
 - Federal law enforcement operates under Controlled Substances Act (does not allow for medical marijuana)



- Federal law enforcement of marijuana laws is rare, varies depending on political climate
 - Federal authorities have been shutting down dispensaries they believe are “profit-making” enterprises



Federal Law vs. State Law: What Does it Mean?

- Supreme Court ruled that federal marijuana laws have precedence over state law (2005)
- Can be charged with federal marijuana violations even if obeying state regulations
 - Case would have to be brought by federal authorities
 - Rare, but can/does happen
- Supreme Court ruled that federal government cannot investigate physicians just because they recommend marijuana (2002)



Effects of Medical Marijuana Legalization

- Marijuana use is more common in states that have medical marijuana laws
 - It is unclear if higher rates of use are cause or effect of medical marijuana laws
- Rates of marijuana abuse and dependence are higher in states that have medical marijuana laws
 - Higher rates of abuse/dependence due to increased rates of use
 - No increase in rate of dependence among users



Role Play

Medical Marijuana

Your brother-in-law has chronic back pain, and is thinking about trying medical marijuana for it since no other medication or strategies have worked.

- What are the pros of medical marijuana?
- What are the cons of medical marijuana?
- What is your advice?