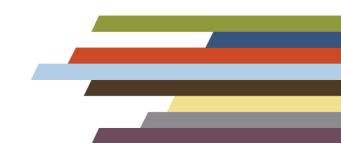


Marijuana: Preparing for Change

Presented by Mary McCarty-Arias, MA April, 2021





Disclaimer

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The use of affirming language inspires hope and advances recovery.

LANGUAGE MATTERS. Words have power. PEOPLE FIRST.

The ATTC Network uses affirming language to promote the promises of recovery by advancing evidence-based and culturally informed practices.

Mary McCarty-Arias, M.A.

More than 25 years experience training in co-occurring disorders, HIV, and vocational rehabilitation.



Goals

- To increase knowledge about marijuana use
- To examine policy changes that may affect a client in treatment



Objectives

- 1. Describe changes in New York and New Jersey state laws around recreational marijuana
- 2. Describe the mechanism of action of marijuana
- 3. List the effects of marijuana on health and its potential use as a medicine
- 4. State reasons why individuals with medical issues might use marijuana
- 5. Describe recent research on potential uses for marijuana

New York Law 2021

- Possession and use of up to three ounces is allowed by anyone over 21.
- The law (128 pages) may take more than a year to be clarified.
- Marijuana may be smoked wherever it is legal to smoke tobacco. This doesn't include parks, restaurants, etc.

More Information on the New Law

- It is anticipated that there may be 1,000 retail outlets,
 50% must be in communities affected by substance use
- Cities can opt out
- There will be an Office of Cannabis Management
- Drug recognition experts will be trained to monitor driving while using marijuana

Important Dates

- As stated previously, smoking in public places violates public health law
- Regulations will be developed by April 2022
- Growing marijuana is still illegal, but beginning in October of 2023, it will be legal to grow 6 marijuana plants

Expungement

- All records for convictions will automatically be expunged
- "Expunged" means the court records will be marked as expunged and sealed
- Once a case is expunged, most employers should not see the conviction when you apply for a job

New Jersey Laws

- Voted on in November 2020, signed by Governor Murphy in February 2021
- Yes it is legal to possess marijuana now; you may possess up to six ounces legally
- State-licensed cannabis stores will be able to sell up to one ounce per customer
- You may gift an adult (21 years) up to one ounce
- Can I grow it in New Jersey? No

More New Jersey Information

- New laws Cannabis Regulatory Commission
- State will save \$127 million per year on marijuana possession enforcement costs



What is Marijuana and Who is Using It?





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Marijuana – What Do You Think?

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



Who Uses Marijuana? (1)

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? (2)



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 HIVrelated neuropathy



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Who Uses Marijuana? (3)

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





Is Smoking Marijuana Less Dangerous Than Smoking Cigarettes?

- No
- Smoking five marijuana joints a day can be as harmful as smoking 20 cigarettes a day





Can People Become Addicted to Marijuana?

- Yes.
- Research confirms that you can become addicted to marijuana.
- Stay tuned for more...



Can Marijuana Be Used as a Medicine?

- In some states, yes.
- Chemicals in the marijuana plant are used to treat some illnesses or medical symptoms.
- The unprocessed marijuana plant is not recognized by the federal government or approved as a medicine by the FDA.





Marijuana vs. Cannabis – is There a Preferred Term?

- The terms marijuana and cannabis are often used interchangeably
- Under U.S. law, cannabis is the plant itself and marijuana (and hemp) are specific parts of the plant
 - Hemp refers to sterilized seeds, stems, stalks, and roots
 - Marijuana is in reference to the viable seeds, leaves, and flowers



Glossary of Key Terms

<u>Cannabidiol (CBD)</u>: a cannabinoid that doesn't make people high; may be useful in reducing pain and inflammation and controlling epileptic seizures

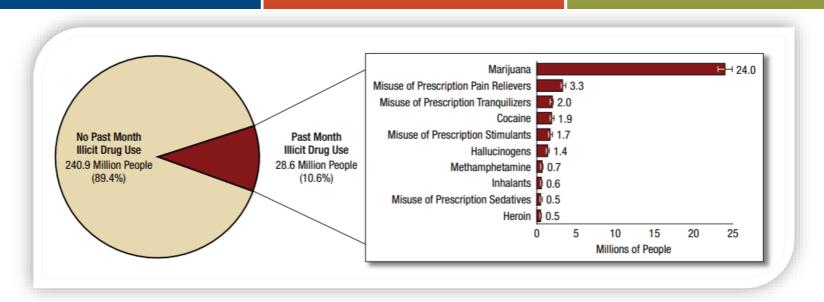
<u>Cannabinoid</u>: chemical compounds that act on the neurotransmitters of the brain (e.g., THC, CBD)

<u>Tetrahydrocannabinol (THC)</u>: the psychoactive compound found in the cannabis plant

Terpenoids: flavor and aromatic compounds of cannabis



Marijuana Is the #1 Illicit Drug Used in the U.S. Among People 12 and Older



The number of past month marijuana users corresponds to 8.9% of the US population aged 12 and older

(SAMHSA, 2017)

Why Do People Use Marijuana?

- 47% used it for fun
- 30% for medical reasons
- 23% reported using it for fun and medical reasons

Is Marijuana Use Associated With an Increased Risk of Opioid Misuse?

- Based on data from the National Epidemiologic Survey on Alcohol and Related Conditions
- Respondents who reported past-year marijuana use had 2.2 x higher odds than non-users of meeting diagnostic criteria for a prescription opioid use disorder by follow-up
 - Also had 2.6 x greater odds of initiating prescription opioid misuse

Link Between Medical Marijuana and Fewer Opioid Deaths Is More Complex

Two explanations exist for the association between medical marijuana dispensaries and reduced opioid harm:

- 1. States that more recently adopted laws with medical marijuana dispensaries more tightly regulated them
- Beginning in 2010, the primary driver of the opioid crisis and related overdose deaths have been heroin and synthetic opioids (fentanyl), not prescription opioids

What We Know About Marijuana Use

- Use among youth has not increased (until recently) despite decreased perception of risk
- Current users use more often (daily, near daily)
- Potency is increasing; plant components are changing
- Cannabis is administered through different routes



What We Need to Know About Marijuana Use

- Need improved measures of frequency, dosage, and use patterns
- Persuasive messaging to counter trend of decreasing harm perception
- Greater knowledge of changing potency, constituents, and alternate routes of administration
- Regional differences based on changing laws, policies, and social norms
- Impact of the use of other substances (sequentially or concurrently)



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





Sativa vs. Indica

	SATIVA	INDICA
Shape and Color of	Long, thin leaves; light color	Wide, broad leaves; deep color
Leaves		
Growing Pattern	12-16 week flowering time	6-8 week flowering time
	8-15 feet tall	2-6 feet tall
	Airy, tall buds	Dense, plump buds
Type of High	Mind/High (day time)	Body/Stoned (night time)
Effects	Euphoria	"Couch-lock"
	Creative	Carefree
	Alert	Calm
	Energetic	Relaxed
	Cheerful	Sleepy
	Sociable	Mellow

INDICA

SATIVA

How Is Marijuana Used?

Smoked: smoked in a pipe, bowl, cigarette; rapid effects; burning marijuana releases toxins that can cause pulmonary problems

Vaporized: inhaled through machine; rapid effects; does not releases toxins

Eaten/drunk: consumed as ingredient in baked goods, candies, etc.; takes time; does not release toxins that cause pulmonary problems



Marijuana: Other Forms

Hashish

- Compressed resin of cannabis plant
- More concentrated and potent than marijuana plant

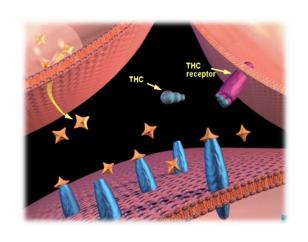
Hash Oil ("Wax")

- 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 100 cannabinoids: main active chemical is Δ9-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
- Cognitive Impairment (Attention, Judgment)
- Altered Perception
- Impaired Coordination/Balance
- Hunger
- Reduced Anxiety
- Sedation/Drowsiness

- Sensory Intensification
- Increased Heart Rate
- 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



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Acute Effects of Cannabis in Intoxication Phase

Cognition

- Difficulty with complex tasks
- Difficulty learning

Executive Function

- Impaired decision making
- Increased risky behavior STDs, HIV

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Mood

- Anxiety, panic attacks
- Psychosis, paranoia

(Dr. Susan Weiss, NIDA, August 2017 National Cannabis Summit Keynote, Denver, CO.)

Symptoms of Cannabis Use Disorder

- Preoccupation with use
- Loss of control over use
- Continued use in face of adverse consequences
- Cognitive distortions and denial

Unlike with other substances (alcohol, opioids), withdrawal from cannabis itself cannot be fatal Symptoms peak within first week of quitting, last about two weeks

Without the drug, experience:

- Anger/aggression
- Irritability
- Mood and sleep difficulties
- Decreased appetite
- Cravings
- Restlessness
- Physical discomfort
- Nervousness and anxiety



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Treatment Options for People With a Cannabis Use Disorder

- 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 approved medications available, but drugs to treat withdrawal symptoms under study

(NIDA, 2016)

Marijuana and the Adolescent Brain

- Overall studies suggest that regular adolescent marijuana use may cause brain structural changes associated with poor neuronal efficient, poorer cognitive functioning
- This may indicate a large proportion of youth are experiencing cognitive difficulties that may negatively impact their performance, leading to increased school difficulty and reduced grades (Medina et al., 2007)



Marijuana: Negative Effects in Pregnancy

- Increasing evidence suggests 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.



Medical Marijuana and State Law

36 states and three territories/jurisdictions allow for the use of marijuana medically

- Through votes in state legislatures
- Through ballot measures

4 states decided in 2020: Mississippi, Idaho, Nebraska, South Dakota – All passed legislation for medical marijuana, except Nebraska

An unconventional approach to making decisions about medicine

Only drug approved for medical use through political process rather than scientific trials and research

(Pro.Con.org 2020)

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 <u>not</u> allow for medical marijuana)

Federal law enforcement of marijuana laws is rare, varies depending on political climate



States That Approved Recreational MJ as of 2021

- New York
- New Jersey
- Montana
- Arizona
- South Dakota (also legalized medical marijuana)



Dispensing Limits in States With Legalized Recreational Cannabis Use

State	Flower/Bud	Concentrate	Edibles	Per Dose/Serving THC Limits	Liquid (Beverage)
Alaska	1 oz (28 gm)	7 gm		5 mg THC; 50 mg per package of 10 servings	
Colorado	1 oz (28 gm)	8 gm	80 servings @ 10 mg each	10 mg THC	800 mg total (80 servings)
Washington	1 oz (28.5 gm)	7 gm	16 oz total weight	10 mg THC; 100 mg per package (10 servings)	72 oz total weight
Oregon	1 oz	5 gm	16 oz total weight	5 mg THC (50 mg per package)	72 oz total weight
California	1 oz (28.5 gm)	8 gm	80 servings @ 10 mg per serving	10 mg THC per dose/serving	



Cannabis Advertising

Oregon

No advertising with strain names such as Luke Skywalker or Girl Scout Cookie

Washington

- No advertising within 1,000 ft. of sensitive use (defacto ban on TV and radio advertising)
- No billboards

Colorado

No billboards or outdoor signs

Alaska

Strong warning language; no promotions

California

 Weak rules to date; allow most advertising; some limits on locations, audiences, and vague language on attractiveness to youth

(Dr. Lynn Silver, Getting it Right from the Start, 2017 National Cannabis Summit Workshop, Denver, CO)

Policy Issues as It Relates to Cannabis Legalization

- Cannabis remains illegal under federal law, even though many states are legalizing cannabis for medical/recreational use
- Science lags behind policy; lack of data to guide policy decisions
- Health messaging must be nuanced and accurate
- Hard to control messaging, even if product marketing is restricted



More Policy Issues as It Relates to Cannabis Legalization

- Perception of harm is decreasing among all age groups
- Societal norms influence use (tobacco use is dropping)
- With no federal oversight or guidance, states are implementing diverse policies
- Big money influences state legalization efforts; lobbying will increase if efforts succeed



Medical Marijuana vs. THC Medications

According to Federal Law, Marijuana is Illegal



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



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 this be helpful for?



How Can Cannabis Be a Medicine?



- CBD is a non-psychoactive compound in cannabis that does not interfere with psychomotor function
- In plant, may moderate intoxicating effects of THC
- Shown promise in reduction of nausea, vomiting, seizure activity, inflammation, neurogenerative disorders, others



Types of Medical Cannabis

- 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

Dr. Susan Weiss, NIDA, August 2017 National Cannabis Summit Keynote,

50 Medical Conditions for Which Marijuana is Approved by a State

- Alzheimer's Disease
- Anorexia
- 3. Arnold-Chiari malformation
- 4. Arthritis
- 5. Ataxia
- 6. Cachexia
- Cancer
- 8. Cardiopulmonary respiratory syndrome
- 9. Causalgia
- 10. Cervical dystonia
- 11. Crohn's disease
- Decompensated cirrhosis
- Dystonia
- 14. Epilepsy
- Fibromyalgia
- 16. Glaucoma
- 17. Hepatitis C
- 18. HIV/AIDS
- Huntington's disease
- 20. Hydrocephalus
- 21. Inflammatory autoimmune-mediated arthritis
- 22. Inflammatory bowel disease (IBS)
- 23. Inflammatory demyelinating polyneuropathy
- 24. Interstitial cystitis
- 25. Lou Gehrig's disease (amyotrophic lateral sclerosis, ALS)
- 26. Lupus

- 26. Migraines
- 27. Multiple Sclerosis
- 28. Muscle spasms
- 29. Muscular dystrophy
- 30. Myasthenia gravis
- 31. Myoclonus
- 32. Nail-patella syndrome
- 33. Nausea or vomiting
- 34. Neurofibromatosis
- 35. Neuropathy

36. Pain

- 37. Pancreatitis
- 38. Parkinson's disease
- 39. Peripheral neuropathy
- 40. Post-traumatic stress disorder (PTSD)
- 41. Reflex sympathetic dystrophy
- 42. Residual limb pain from amputation
- 43. Seizure disorders
- 44. Sjogren's syndrome
- 45. Spasticity
- 46. Spinal cord damage with intractable spasticity
- 47. Syringomyelia
- 48. Terminal illness
- 49. Tourette's syndrome
- 50. Traumatic brain injury

Implications of Increased Potency on Health?

Most of our research is on this



But we may start seeing a lot more of this



Cannabis plant as ingredient in food/drinks
About 10 mg THC per "serving"
Takes time to digest and feel high Risk of overconsumption





Extracts and resins (hash oil, wax, shatter)
Consumed via smoking, vaporizing "Dabbing"
50-80% THC



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Resources for Continued Learning

NIDA – Marijuana

https://www.drugabuse.gov/drugs-abuse/marijuana

Learn about Marijuana, UW ADAI

http://learnaboutmarijuanawa.org/

ATTC Marijuana Lit

http://attcnetwork.org/marijuana/index.aspx

California Bureau of Cannabis Control

https://www.bcc.ca.gov/

Getting it Right from the Start

https://www.gettingitrightfromthestart.org/

Questions?





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