Seeing Through the Smoke
Identifying and Engaging Cannabis Users

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Goals for this Presentation

• **Re-contextualize** cannabis within a wider historical, & sociocultural framework to increase health providers awareness

• Emphasize the **complexity** of trying to understand cannabis in clinical terms

• Briefly review the outcomes from research on treatment & “motivators of use/recovery”

• Discuss the **cannabis integrated screening tool**, development, and findings from three states

• Review a new paradigm for **helpful interactions** with cannabis users
Culture of Cannabis Quiz

1. How many states have now legalized *recreational* cannabis?
2. How many have it on the legislative 2017 calendar for votes?
3. What % of users vaporize vs. smoke cannabis?
4. What is the technical term for the person who helps you purchase cannabis at a dispensary? (hint: like a bartender)
5. What percentage of American adults have tried cannabis?
6. What the average % THC in weed today? What was it 10 years ago?
7. How many Cannabis companies make up the “weed index”? 
8. In 2000 what % of Americans said Marijuana should be legal?
9. In 2016 what % of Americans said Marijuana should be legal?
LIFE

MARIJUANA

At least 12 million Americans have now tried it
Are penalties too severe?
Should it be legalized?

Life Magazine, October 1969
Marijuana Legalization by State

Key Statistics

59.3% of the U.S. population now lives in a state where marijuana has been legalized.

- 29 states plus Washington DC have medical marijuana laws...
- 19 states plus Washington DC have operating dispensaries...
- 8 states plus Washington DC have recreational marijuana laws...
- 4 states with operating retail stores...

Source: Marijuana Business Daily, U.S. Census Bureau
SHIFTs in Cultural Perspectives

- Since 5000 BC – 1930’s (in US) humans viewed Cannabis as a medicinal, spiritual and recreational substance.
- From the 1930’s until Mid 1990’s most Americans viewed Marijuana use as Harmful
- Needing to be Illegal - 1970’s DEA Categorizes as a Schedule 1 Drug
- 1996 on - Medical Marijuana Legalized & 84% of Americans Now Believe Cannabis has Medical Value?
- 2012 Recreational Marijuana Legalized

Our society does not yet clearly understand the true implications of this shift in use and the science (pros and cons) of the “New Marijuana”
Highlights of Use in America

• 52% of Americans have tried it
• 65% are now parents
• Legalize? 2000 = 30% vs. 2016 = 60%
• More than 12 percent of eighth graders and 36 percent of seniors at public and private schools around the country said they had smoked marijuana in the past year.
• Parents surveyed are not as worried about youth using weed vs. tobacco
• Youth also more concerned about tobacco
• About 60 percent of high school seniors said they did not view regular marijuana use as harmful, up from about 55 percent last year.
• (Monitoring the Future, Yahoo News and Marist Poll )
Lessons from Tobacco informs us…..?

“There is no way to properly ‘regulate’ marijuana without allowing an entire industry to encourage use at a young age, to cast doubt on the science, and make their products attractive – just like Big Tobacco did for 50 years. Today’s Big Marijuana is no different.”

Dr. Kevin Sabet, director, Smart Approaches to Marijuana
What defines & promotes a cultural shift?

A **meme** (/ˈmiːm/ meem) is "an idea, behavior, or style that spreads from person to person within a culture."

- Language
- Habits
- Media
- Pressures to Conform
- Desire for Novelty
- Desire for Reward/Pleasure
- Desire for the “Extremes” – the Potent Experience
- Perceptions of Risk
We Are All In ”The Flux” of a Paradigm Shift?

WHY: A cultural shift is taking place with increasing information but limited long-term scientific understanding

• We are only just beginning to understand the short and long-term benefits & consequences of using the “new” more potent marijuana

• We are just beginning to understand the subtle but important differences in THC:CBD ratios (dose), method of use & the individualized responses

• Have you tried cannabis?
Cannabis and Human Culture

• There is something inherently human about changing consciousness
  – There are no cultures without substance use.

• The way we think about cannabis is changing...

• Social myths and ideas scaffold and interpret the drug experience
  – Why is drinking in the morning bad? What about Mimosas?
The average THC potency of cannabis has been increasing over the last 30 years. *Why?*

- Domestic production means fresher product due to breeding, growing, & curing technical expertise
- People now use mostly sinsemilla (unfertilized flower) instead of the branches and leaves = stronger potency
- 18% average THC in weed & users smoke ¼ gram per bowl/joint
- For every gram of pot you have roughly 180 mg of THC.
- At least 60 percent loss due to burning, you can expect a full bowl to deliver 18 mg of THC. Split it with a friend, and you each get almost 10 mg.

*10mg = equivalent dose*
Methods of Use (good market pot = 18% THC)

1. **Smoking** *(joints more efficient than bowls at combustion)* 50% THC

2. **Edibles** *(food infused with cannabis)* Dosing hard to predict – look at the label *(dose = 10mg. Of THC)*

3. **Vaporizers** *(flower and extract)* more than joints 70% THC dependent on device

4. **Dabbing** *(extract, up to 40-60% THC)* losses due to burn method
“Weed” HEALTH Quiz?

• What sector of our population uses the most?
• Who is the most vulnerable to the negative effects?
• What is the “addictive” potential of Marijuana in youth?
• What’s are the potential benefits of Marijuana?
• What kind & % of users quit without formal treatment?
• What personal factors help people decide to quit?
Psychopharmacology

• Examples include:
  – Pain - low dose reduces pain
  – Anxiety - high doses can induce anxiety
  – Sleep - low dose encourages sleep

• This is a significant challenge to medical model of use (dose-effect)

• Conversely, CBD has little psychoactive effect and opposes the effect of THC (Martin-Santos, 2012; Pertwee, 2008)
Effects on Physical Health

- Cancer
- Lung Health
- Sleep
- Hyperemesis Syndrome (cyclical vomiting)
- Cannabis Intoxication (ED admissions)
- Weight – no known effect (not well-studied)
  - Reduced risk of type 2 diabetes?
Effects on Mental Health: CUD

- Addiction (CUD)
  - About 9% of adults and \textbf{27\% of adolescent cannabis users} will become addicted (Hill, 2013)

- Neurocognitive effects

- Relation to other risky behaviors
Effects on Mental Health: Cognition

• Short-term effects on neurocognitive performance are well known:
  – Learning & Memory
  – Processing speed
  – Executive Functioning (attention, planning)
• Detriments are more subtle among adults
• All of these affect school performance and may alter trajectories beyond use
Effects on Mental Health: Cognition

• Long-term abstinence appears to return users to the level of control, perhaps with subtle deficits remaining (controversial)
  – Some studies have found persistent IQ deficits in abstinence, but confounding factors make certainty difficult (Meier et al., 2012)
  – The amount of use is correlated with worse outcomes (Sillins et al., 2014)
Effects on Mental Health: Cognition

• One of the reasons for the uncertainty is both the complexity of studying neuro-cognition as well as the relatively modest effect sizes

• Multiple long-term studies suggest that early-onset cannabis use, especially when combined with alcohol use, are predictive of lower educational attainment, increased likelihood of addiction, and other health problems
  – (see for example: Brooks et al., 2008; Hill, 2015; Meier et al., 2012)
Cannabis and Mental Health

- **Psychosis**: Cannabis has a robust and dose-dependent association with psychosis.
- However, psychotic disorders (i.e. schizophrenia, bipolar) are highly heritable (~70% accounted for by genetic factors).
- No increase in psychotic illness diagnoses when more people started using cannabis (1960s-1970s).
- **Anxiety**: In the short-term high doses of THC can cause anxiety and panic.
- Little evidence that cannabis causes anxiety disorders, but it may increase self-harm risk for people with social anxiety (Buckner et al., 2012).
Aside: medical users

- Chronic pain
- Neuropathic pain
- Spasticity associated with multiple sclerosis
- Nausea
- Appetite stimulation

- Anticonvulsant
- Anti-inflammatory
- Pain management
  - Fewer overdoses
  - MMP
- Cancer
In summary

• Susan Weiss, director of the division of extramural research at the National Institute on Drug Abuse (NIDA), notes that “there’s a growing literature, and it’s all pointing in the same direction: Starting young and using frequently may disrupt brain development.”
Part Two

• Briefly review the outcomes from research on treatment & “motivators of use/recovery”
• Discuss the cannabis integrated screening tool, development, and findings from three states
• Review a new paradigm for helpful interactions with cannabis users
Question

In a world of “normalized” medical and recreational use:

How do cannabis surveys & treatment research outcomes inform us to identify and engage users?
Top Motivators for Use – Youth

- Enjoyment, Celebration = 62%
- Experimentation, Novelty, Risky = 41%
- Conformity, Social Enhancement = 42%
- Boredom = 25%
- Relaxation = 24%
- Coping 13%* (only potential negative?)
- Altered Perception = 10%
- Lower Health Consequences = 10%

(Lee et al. 2007)
• Of the 7.6 million users who needed treatment for illegal drugs roughly 20% received treatment
• Of the 6.1 million left only 6.4% reported they perceived a need. (Greydanus et al, 2015)
• **Number one reason** = not being ready to stop! (along with embarrassment, financial costs, stigma & negative attitude toward treatment)
• Treatment is also perceived as designed for those already committed to change. (Stephens & Roffman, 2006)
Withdrawal Symptoms

Symptom Severity

- Cannabis
- Tobacco

Withdrawal Checklist Symptoms

Mean WDS Score

Mean Rating (0-3)
What happens when users quit?

- "I never had withdrawal symptoms, but after a few days without it, everyone on the planet begins conspiring to annoy the piss out of me every waking moment" - u/iamaprettykitty

- "I experience no major side effects when I quit, I just find it harder to sleep for a few days and have vivid dreams when I do go to sleep. I have also noted a slight decrease of appetite but nothing really bothersome" - u/Glacienda
What happens when users quit?

- "...I find it funny that no one ever tells you that you'll need to learn how to appreciate life again... When I started smoking weed it was an adventure... (after quitting) I had to learn how to have fun again - how to enjoy my life really. What did I used to do with all this free time?" - u/groupphugintheshower

- "I get my dreams back but mainly, my withdrawal is boredom. Weed makes weeknights so much more tolerable" - u/creatureofthewheel85
Natural Recovery

Likelihood of Remitting as a Function of Time Since Onset of Dependence

Cumulative Probability of Remission

Years Since Onset of Dependence

Heyman, 2013
Natural recovery study

- Users averaged 29 years
- Smoked weed average of 14 years multiple times daily
- DAST scores lower for past year vs. lifetime problems = suggesting reduced use prior to fully quitting
- Reasons for not seeking formal treatment
  80% stated they did not need it
  76% wanted to quit on their own
  48% stigma associated to formal tx

(Sobel et al., 2000)
Reasons for quitting:
- 76% change the way cannabis is viewed
- 64% negative personal effects (view self as less positive)
- 52% social pressures
- 44% health concerns

Helpful factors in recovery:
- 72% return to non-using activities of interest
- 72% avoidance of trigger people or situations
- 60% received support from spouse or sig others
- 56% support from a social group
Trajectories of Cannabis Use

- Surveys began ages 14 up to 30 years old
- **Persistent increasing risk** – later SUD onset, externalizing disorders at 24 & 30 and increase psychotic experiences during young adulthood
- **Maturing out**: with increasing risk until age 20 then decreasing risk after
- **Stable low risk**
- Optimal periods of prevention/intervention late childhood or early adolescents to thwart increased use as young adults
Summary of Trials for CUD

• MET, CBT, CM, MET/CBT are most studied and efficacious – demonstrating decreases in frequency & negative consequences

• Sustained abstinence relatively uncommon outcome & relapse rates similar to other drug treatment (Roffman & Stephens, 2006)

• Integrating abstinence reinforcement (CM) increases abstinence outcomes

• Combination of MET/CBT/CM most potent

• Still lots of room for improvement! (Budney, presentation 2015)
The Outcome

There is an evident lack of motivation to change for many cannabis users even though the impact of use is often self-evident & endorsed.

As one daily user states:
"I'm not sure if this is a symptom of withdrawal exactly, but the biggest changes for me are things like focus, motivation, and discipline. When I'm smoking heavily, I'm more or less content just existing. I don't push myself to achieve any goals in life and I'm not open to new experience."
Part Three

Identifying and engaging cannabis users in healthful discussions?
The Search for a More Potent Health Response

• Due to lack perceived need for treatment – and the desire to identify & engage earlier – medical (ED, Primary Care) and/or student health services could be a good access point?
• VTSBIRT findings to date demonstrate 10.5% of patients screen for risky use of drugs.
• 81% of them do so for marijuana misuse
• These patients use at least 2-3 times a week & an average of 18 days per month
• Most frequent users are youth – adolescents and young adults
• Most negative impact of substances occurs during critical periods of human development
SBIRT Interventionist: Concerns

During the past year, our interventionists consistently voiced their concerns & frustrations at their perceived inability to intervene meaningfully for these patients.

Patient’s did not verbalize any reasons to change their use and in fact stated how they felt marijuana was helpful for a variety of mental health and physical symptoms.
Cannabis Screening & The DAST

- Interventionists concerns were validated by the lack of patient endorsed consequences (items) on the DAST screening tool.
- Out of a possible 9 secondary DAST items, the patients endorsed an average of **only one (+) item** – thereby limiting the “potential reasons for change” content of the brief intervention
- The item being “I used” (and sometimes another one about others complaining or feeling guilt)
Question One

How can we utilize initial and secondary screening tools to elicit increased endorsement of the how, why & impacts associated with marijuana use?
Creating the Cannabis Integration Screener (CIS)

Reviewed literature found 6 validated marijuana screeners – selected 2 as most helpful for health & medical implementation

Created Pool of 21 additional marijuana consequence items – including driving question

8 were selected with a preference value of 50-70% by 10 SBIRT staff through a web based survey
Matching the (CIS) Screener Items to the Experience of Users

Sample list of consequences offered by students in open-ended survey

Top 10 Endorsed Marijuana Consequences: Study 1

1. Eating (e.g., eating too much)
2. Sleep problems
3. Productivity, apathy, motivation issues, or boredom
4. Cognitive abilities, attention, or concentration problems
5. Memory problems
6. Problems with lungs or coughing
7. Feeling antisocial or experiencing social awkwardness
8. Physical difficulties outside of lungs, cough, mouth, or throat
   (e.g., feeling dizzy, sick, uncoordinated, etc.)
9. Not getting things done
10. Spending too much money

Notes: Preliminary analyses suggested that among the top ten types of consequences generated by participants, only two (not getting things done and financial impact) were reflected in items from the RHPI, and these two were the ninth and tenth most mentioned consequences.

Walter, Kilmer, Logan, & Lee (2012)
Lee, Kilmer, Neighbors, Walters, Garberson, & Logan (in prep)
Data Addressing Q1

- Patients significantly endorsed more total items on the Cannabis Integration Screener vs. the DAST ($t = 2.94, p < .01$)
- Requested a larger validation study across three states, different medical settings (hospital emergency and primary care) and more patient screens
Question Two

If patient’s endorse the CIS impacts items

a) will they increase their interest in discussing the item content

b) will this lead to more interventionist opportunities to develop discrepancies & elicit change talk = potency from an MI perspective
Data addressing question 2

• To understand provider perceptions we asked them to answer and rate (Likert scale) their impression of the “changed” intervention for potency, discrepancies developed, risks discussed & eliciting change talk

• In 60% of the brief interventions, providers stated they agreed or strongly agreed it was now easier to discuss risks with their patients
Validating the CIS

Patients: Adults 18 up

Differences in state setting and workflows:

<table>
<thead>
<tr>
<th>State</th>
<th>Medical Setting</th>
<th>Workflow</th>
<th>Interviewer</th>
<th>Sample Size</th>
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<td>ED</td>
<td>Triage by Frequency - Weekly Use Cut Off</td>
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<td>Primary Care</td>
<td>No Triage CIS</td>
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<td>ED</td>
<td>No Triage CIS</td>
<td>SBIRT clinican</td>
<td>295</td>
</tr>
</tbody>
</table>
Population Health Strategy -

Initial screening: Cannabis Use Frequency Item (use as triage)

Cut Off = Weekly Use or Greater

Action = Administer Secondary Screening

Secondary Screening (CIS 10)

• CIS Stratifications: Based on Number of Endorsed Items (out of 10).
• The (%'s) listed in each level of the pyramid reflects an estimated number of persons who endorsed any cannabis use.
The (%'s) listed in each level of the pyramid reflects an estimated number of persons who have indicated negative impact for their cannabis use among those endorsing any use.
Use Frequency Patterns

- **Less Than weekly**: Iowa - 104, Washington - 77
- **Weekly or More**: Iowa - 124, Washington - 218
- **Once Daily**: Iowa - 23, Washington - 30
- **Two or More Times Daily**: Iowa - 77, Washington - 70
Summary of Validation Study

Frequency Prescreen successful at triaging out those with impact and those with none or few.

Weekly Use as a frequency cut off is a good predictor for # of impacts endorsed

Using multiple times daily (Binge Use) = highest number of impacts

Use for either Mental Health or Physical Health equally associated with impact

Trying to “control use” is a significant indicator of “Binge Use” & a nice place for starting a discussion as are driving, memory loss and using during work/school.
CIS = ➡ Potency of Cannabis Intervention

• We think we are heading in the right direction but.......
• The analysis is 649 patients
• Need to validate comparing other Marijuana Specific Instruments
• Other questions?
Heyman, 2013: Addiction and Choice

• “Put in more personal terms, addicts often say that they quit drugs because they wanted to be a better parent, make their own parents proud of them, and not further embarrass their families.”

• “In short, the correlates of quitting are the practical and moral concerns that affect all major decisions. They are not the correlates of recovery from the disease addiction”
What approaches are most aligned to the users experience?
Marijuana Check-up

- Designed for pre-contemplative or contemplative users who have questions about their use.
- 90 minute MI based feedback intervention to take stock
- If patient discusses problems **counselors help resolve them using reflections about change concerns & benefits**
- If patient does not discuss problems with use & has no intention to quit: **counselors do not pressure them**
- Discussion based on patients endorsing 20 + and 20 - expectancies if patients reduced amount they smoked
- No need to justify behaviors
• Reflections are candid, promote self exploration & “self determination” in making one’s own choices.

• When therapists expressed concerns about the patient’s risks – they are reminded of literature demonstrating brief interventions potential for change.

- these patients would not be reached in a specialty treatment

- this brief intervention may increase likelihood of future treatment seeking

Outcomes – Reductions in marijuana use frequency with sustained (6 & 12 months) small to medium effect sizes (Swan et al. 2008)
How to Talk About Cannabis

*You cannot wake somebody who is pretending to sleep* – Proverb

- Conflict is counterproductive
- Understand your client’s reason for using!
- Data is less important than personal experience
- Immediate concerns (sleep, money) are more important to people than long-term health
How to Talk About Cannabis

*If you must share data, pose it as a question:*

- “You’re smart and doing well; you have a lot going for you. I wonder what you’d be willing to change about your habit to keep that edge?”
- “Some people I’ve talked with report being sluggish the day after they smoke. How do you avoid getting high the night before you have a big day or something important to do?”
- “We know that it can be very hard to control cannabis use when people use it more than occasionally. I wonder how you’re able to do that?”
The Tao of Weed

How I learned to talk about weed, without talking about weed...

- Help client’s become future-oriented
- “MI Seeks to promote reflection on drug use and its personal consequences in the context of their values and goals” – McCambridge & Strang, 2004
The Tao of Weed

• Your greatest tool is the quality of your relationship with your client.
• Listen to your clients
Thank you!

- Questions, thoughts, concerns?
Further Reading...

1. WHO: The Health and Social Effects of Non-medical Cannabis Use (2016)
2. Marijuana: the unbiased truth about the worlds most popular weed - Kevin Hill, 2015
4. University of Washington: ADAI
   http://learnaboutmarijuanawa.org/factsh eets.htm