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GEISEL SCHOOL OF MEDICINE AT DARTMOUTH

Cannabis Addiction / Cannabis Use Disorder (CUD): Phenomenology, Intervention, Clinical Issues

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VDH Cornerstone Workshop

Disclosures

Research supported by NIH-NIDA for > 30 yrs

Treatment Development for Substance Use Disorders

Lab & Survey Studies: Withdrawal, Policy, Use Characteristics, Quantification

Scientific Review Board: ***Center for Medical Cannabis Research,*** *UCSD, CA*

Consultant: Canopy Growth, Inc; Jazz Pharmaceuticals

Don't Currently Use Cannabis: recreationally or therapeutically

AGENDA

Cannabis/marijuana (THC-laden) is an addictive substance

Brief Overview of Clinical Interventions for CUD

Clinical Considerations and Challenges

- Changing Landscape; Harm reduction; Medical

Provoke Thought and Conversation

Cannabis (thc-laden) is **more similar than dissimilar to other substances that are considered "substances of abuse"**

Like other substances, cannabis is used primarily for its positive (and negative) reinforcing effects

A subset of those who use cannabis (conditional probability10-30%) will develop problems

Problems will range from mild to severe

Vulnerable Populations
Highest Rates of CUD / Consequences

Poverty --- Disadvantaged, underserved minorities, low SES

reduction/deprivation of prosocial reward, increased stress

Psychiatric Disorders

- perceived benefits, symptom relief

Physical Disorders

- perceived benefits, symptom relief

Teens

- impulsivity, developing neuro-system, lack of established roles and responsibilies, peer influence

Cannabis Addiction?

Cannabis (**THC-laden**) is addictive in every accepted scientific and clinical meaning of that concept

Scientific / Clinical evidence is strong and unambiguous

Evidence: Addictive Potential & Clinical Consequences
Biological, Behavioral, Epidemiological

- Endogenous cannabinoid system in the CNS
- Effects of administration and cessation on brain reward centers are similar to other drugs with addictive potential (CB1R)
- THC functions as a reinforcer in the human lab
- Clinically meaningful withdrawal syndrome
- Clinical Epidemiology: People meet CUD criteria
- Treatment seeking for CUD is prevalent
- Treatment response is modest; difficult to quit; high rate of relapse

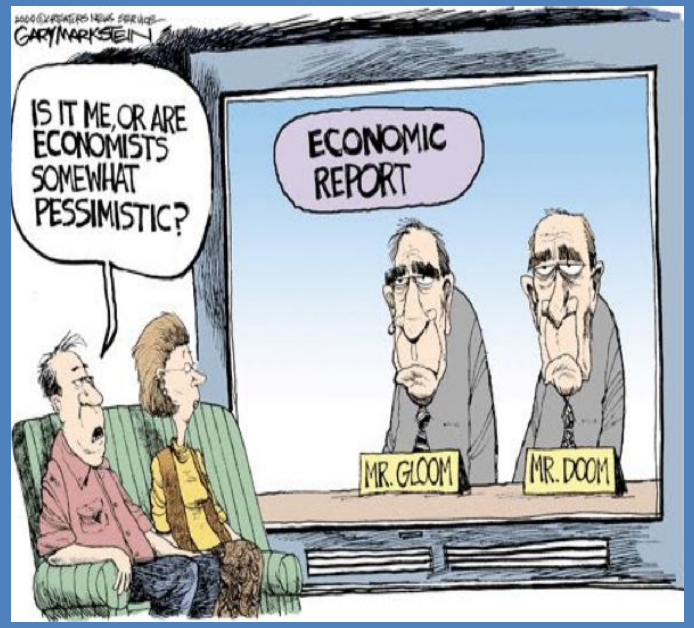
Interventions for Cannabis Use Disorder (CUD) and Misuse

Adolescents

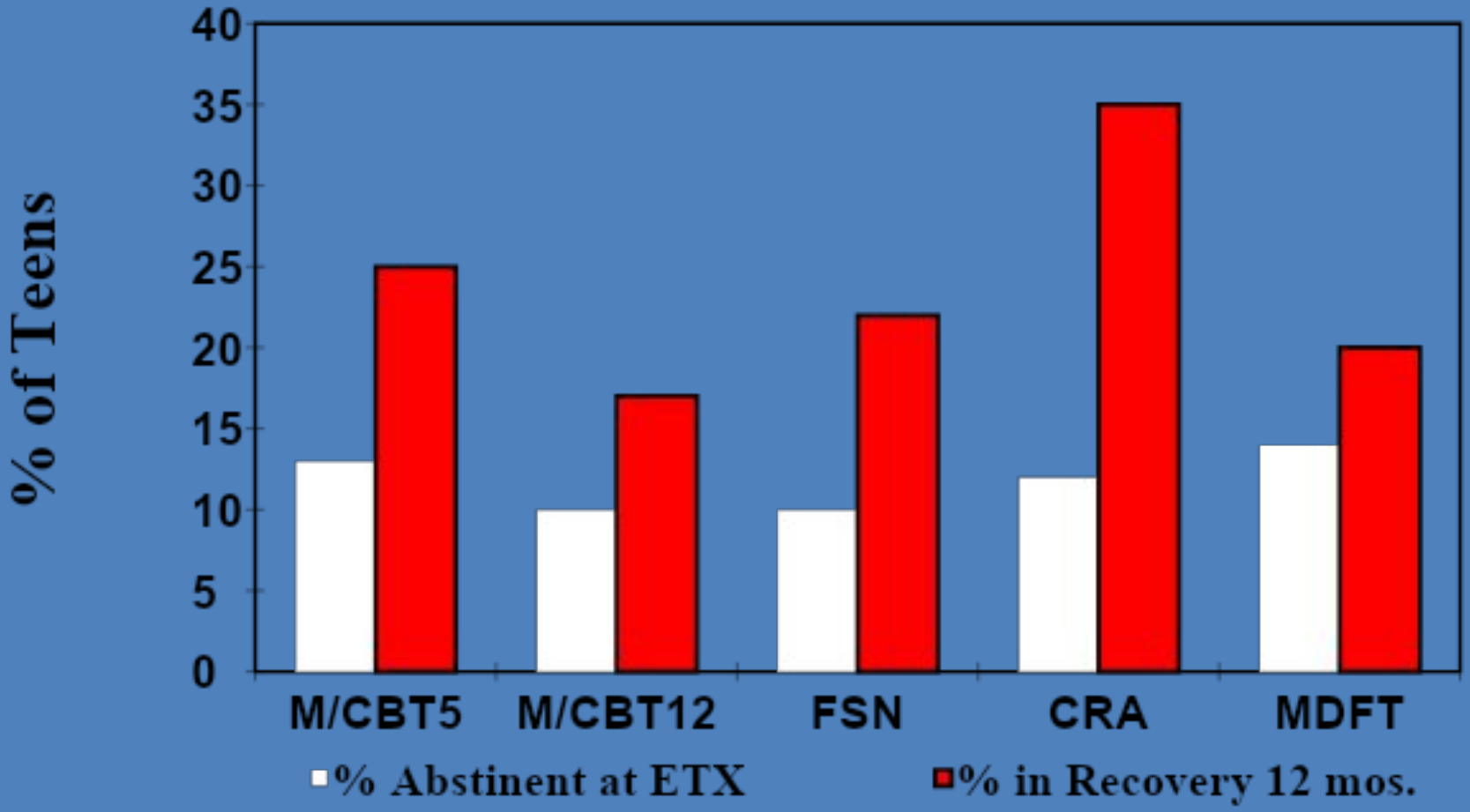
Adolescent Intervention Literature

Multiple types of family-based and group / individual behavioral efficacious interventions for SUD / CUD

Waldron et al.	FFT, CBT, combo
Liddle et al.	MDFT
Henggeler et al.	MST
Dennis et al./Godley et al.	MET/CBT, ACRA, FSN
Szapocznik et al.	BSFT
Stanger, Budney et al.	CM
Walker et al.	TMCU
Dennis et al. and others	Technology / Smartphone Delivery



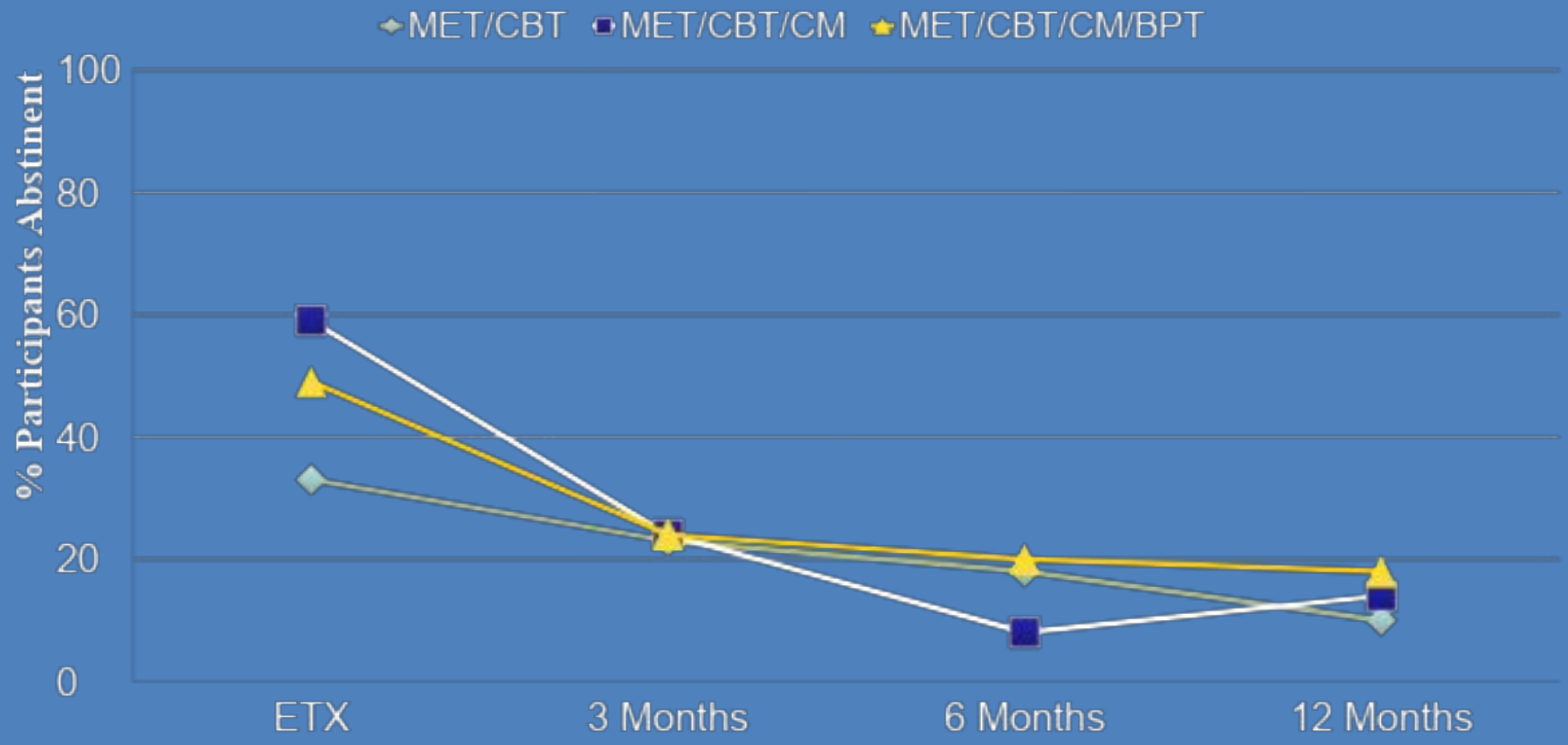
Cannabis Youth Treatment Study



(Dennis et al., 2004)

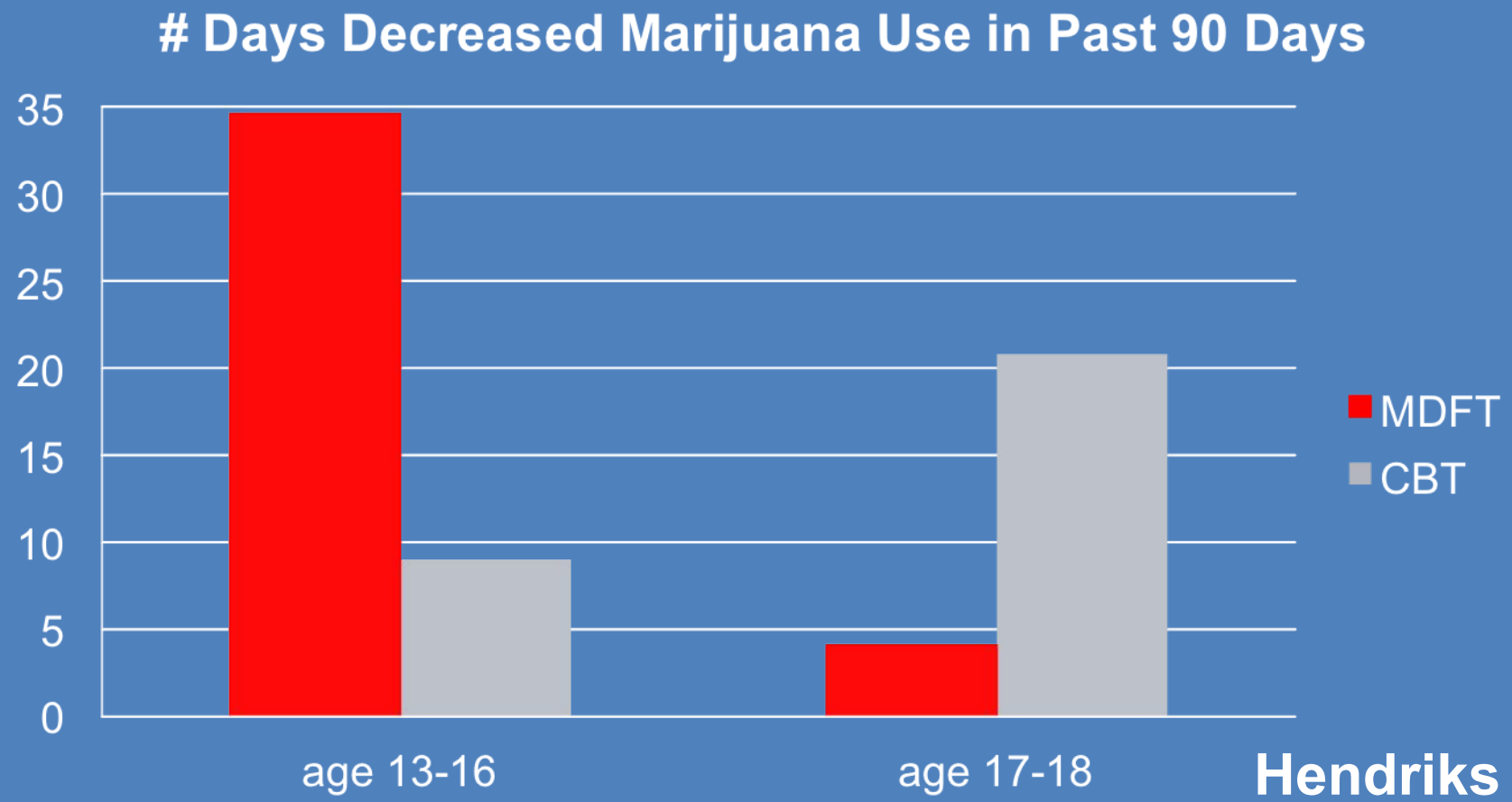
Contingency Management (CM) for Adolescents: CM enhanced outcomes, but did not maintain its effects

(Stanger et al., 2015)



Multidimensional Family Therapy (MDFT) vs. Group Treatment (CBT based)

Age Effects



Hendriks et al. (2012)

TMCU: Teen Marijuana Check-Up

Walker et al. (2009, 2011, 2015)

Your Marijuana Use Got You Thinking?

The Marijuana Check Up

206-616-3457

www.marijuanacheckup.com

We address concerns & questions.
No pressure to change.
Free & Confidential.

Digital Therapeutics: Smartphones Dennis et al., 2015

Ecological Momentary Assessment Surveys (EMA):

Report on use, craving, exposure to drugs
Who were you with? Where were you? What were you doing and feeling?

Rate whether each: made you want to drink, use drugs, or supported recovery

Ecological Momentary Interventions (EMI):

Recovery support (discussion groups, support team, listen to recovery stories, meeting locator, link to sponsor)

Stress reduction (guided relaxation, playing games, listening to music, learn/reading, physical exercise)

Recovery motivation (motivational text messaging, recovery words, recovery profiles and pictures)

Social networking (Facebook, contacting friends)

Other Recent Advances Under Study
Transdiagnostic Vulnerability Targets

- **Temporal Discounting**:
  - **Devalue / discount the future**
  - **Choices are based on more immediate rewards/outcomes**

- **Future Focus / Enhance Valuation of the Future**
  - **Episodic Future Thinking (EFT):** guides creation of hypothetical, personal future events which putatively enhance attention to and valuation of the future
  - **Substance-Free Activity Session (SFAS)**: integrated with brief motivational interventions in college students: focus on career goals, relation to college performance, what it takes, benefits

Summary: Interventions for Teen CUD/SUD

- Multiple interventions are “efficacious”
- Integrating CM (abstinence-based incentives) can improve abstinence outcomes by getting more teen going in the right direction
- % of teens improved appears **lower** than that observed with adults
- Rates of success in disadvantaged populations are low

**** Still much, much room for Improvement**

Clinical Issues Related to Changing Cannabis Landscape: Beliefs and Policy

Legality / Alcohol comparisons

- Millions of people enjoy a drink. What's so different about mellowing out with pot?
- It's clearly not as harmful as alcohol?
- I'd rather have her (my daughter) smoke a little marijuana than get drunk and wreck the car
- I'd probably drink a lot more and get into trouble; with marijuana I don't bother anybody.

Clinical Issues (continued)

I know I get high too much, but some is medically necessary

I think marijuana helps his ADHD; seems less harmful than prescribed medications (stimulants)

It really helps my PTSD symptoms

I need it for sleep, and I know they say it helps with sleep

Keeping a stash around for medical purposes makes it impossible for me to avoid using too much.

Clinical Issues (continued)

Lack of perceived adverse effects

Isn't there something really bad about marijuana you can tell me about so I'll get motivated to quit? Everything I hear is that it is good for you.

My life isn't so bad the way it is, so it's hard to really commit to quitting.

Reduction rather than abstinence

I don't think I'll ever want to quit; cutting back would be good.

I'd like to reduce from 5 times per day to just twice per day.

How To Respond?

- Diffuse and deflect, don’t argue
- Nonjudgmental, empathic
- Maintain professionalism: empirical knowledge
- Don’t need to take a strong stand on legalization
- Ask if interested in what the current research offers
- You can agree that alcohol seems more harmful
- Gently remind / explore marijuana-related problems
- Refocus: acknowledge / explore personal dilemmas
- Consider harm reduction a viable goal

Low vs. High Risk Patterns of Cannabis Use

Unlike for Alcohol, we are clueless about:

- How much or what patterns of use are safe/low risk?
- How do we quantify use / define patterns?
- How do we define meaningful change (outcome measures)

Public Heath Challenges

1) De-Medicalize Cannabis Use (THC-laden)
2) Change Positive Public Perception
3) Adopt Harm Reduction Perspective and Policies
4) Reduce Impact of Burgeoning Industry

Science is a Slow Process

Center for Technology and Behavioral Health

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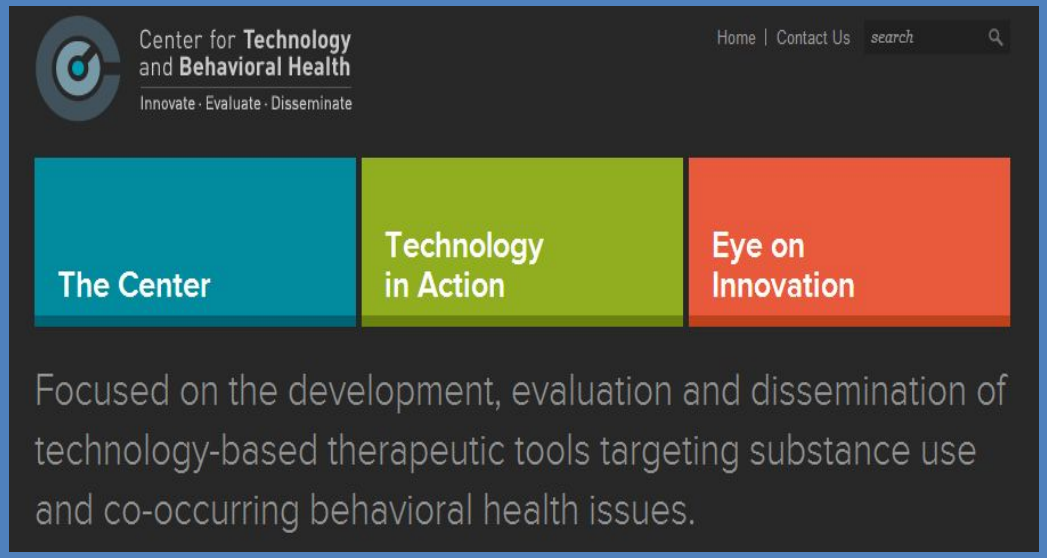

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