Substance use and substance use disorders in youth

Marc Fishman MD
Maryland Treatment Centers
Johns Hopkins University School of Medicine
Consultant, Maryland Addiction Consultation Service (MACS)

BHIPP
Maryland Behavioral Health Integration in Pediatric Primary Care

855-MD-BHIPP (632-4477)
www.mdbhipp.org
855-337-MACS (6227)
www.MarylandMACS.org

MACS
Maryland Addiction Consultation Service

JOHNS HOPKINS
MEDICINE
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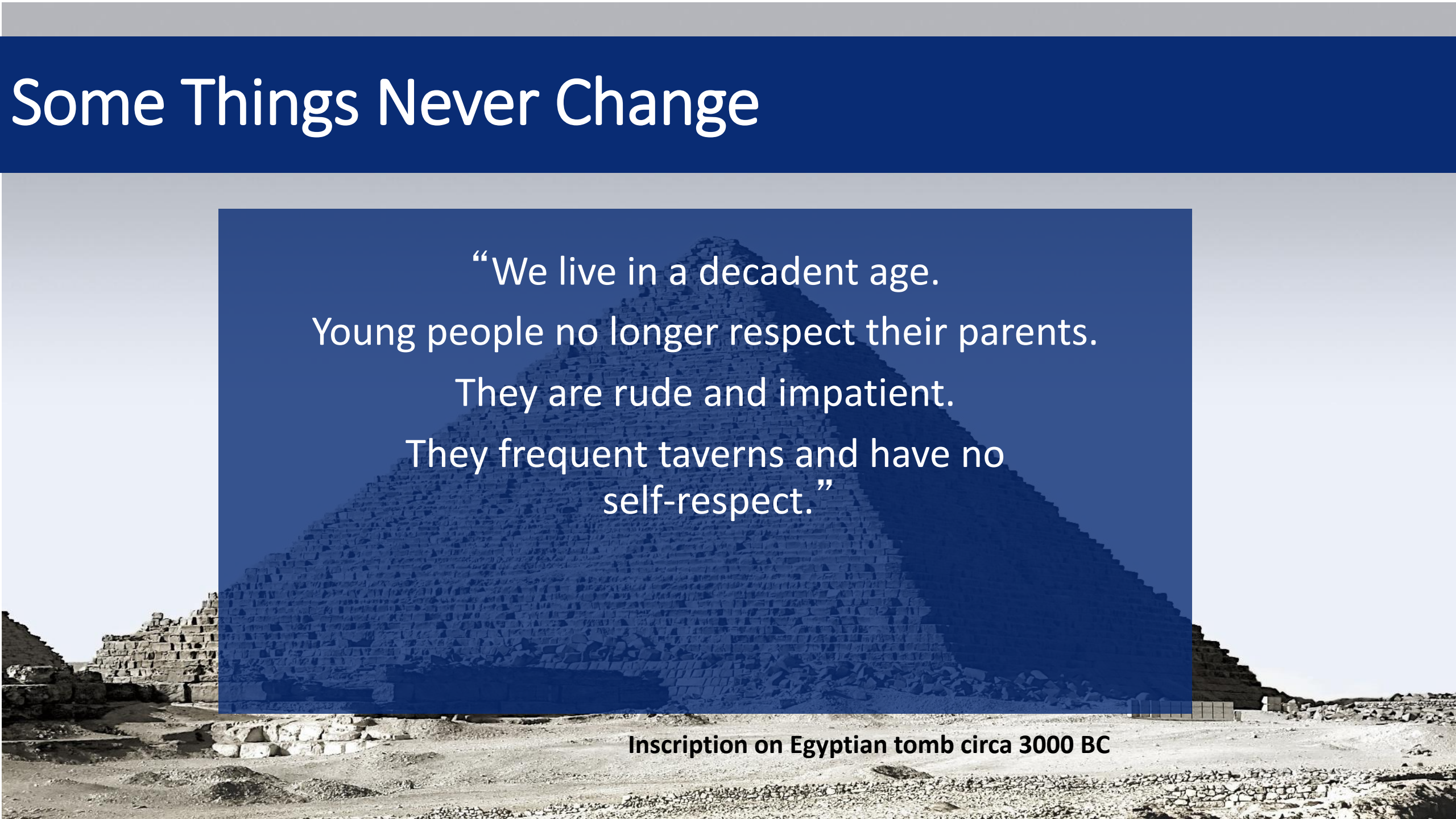
Some Things Never Change



"We live in a decadent age.

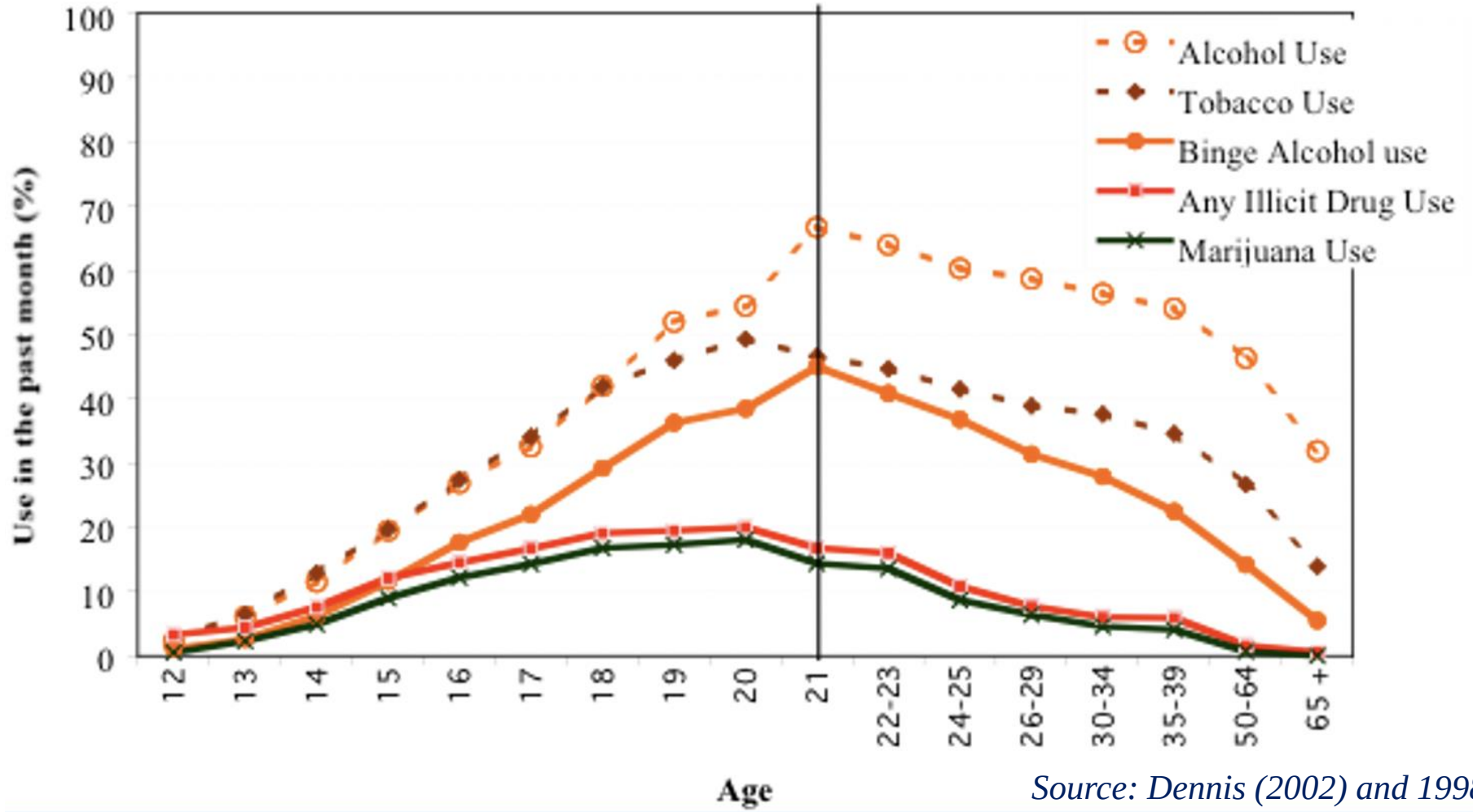
Young people no longer respect their parents.

They are rude and impatient.

They frequent taverns and have no self-respect."

Inscription on Egyptian tomb circa 3000 BC

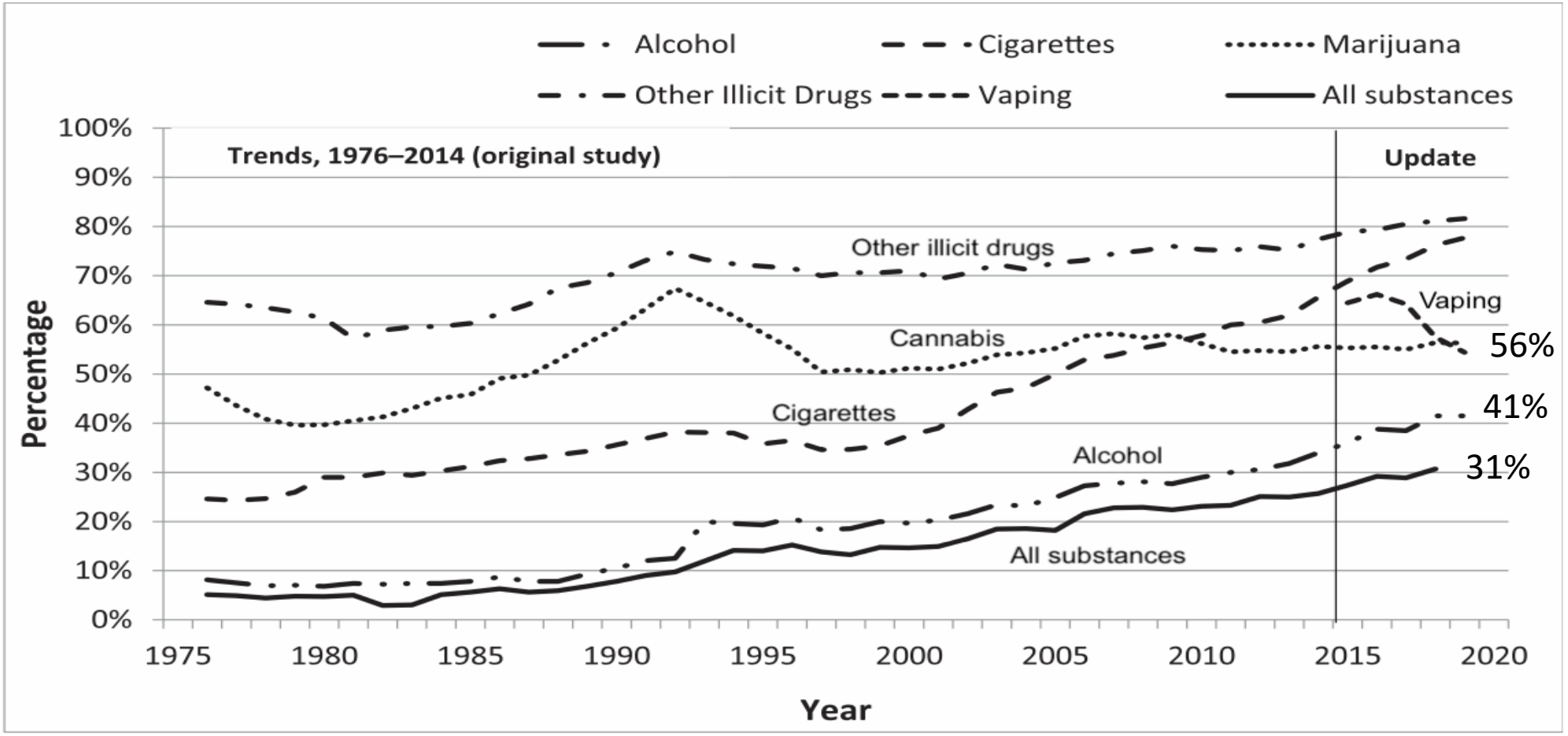
Relationship between substance use and age



Source: Dennis (2002) and 1998 NHSDA.

Non-Use Trends

12 graders, lifetime

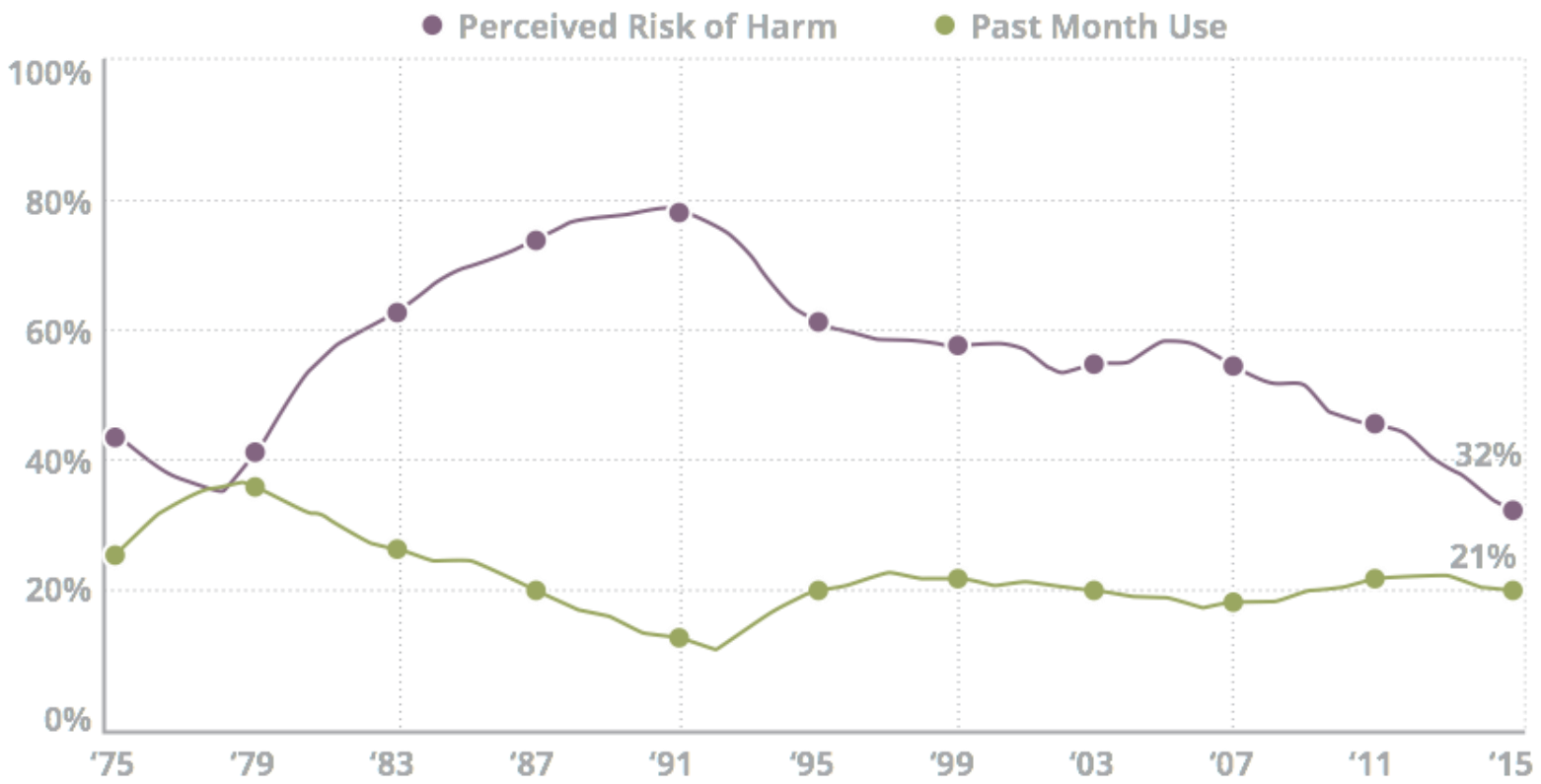


Abstinence all substances (including vaping):

Lifetime	25.3%
Past 30d	50.9%

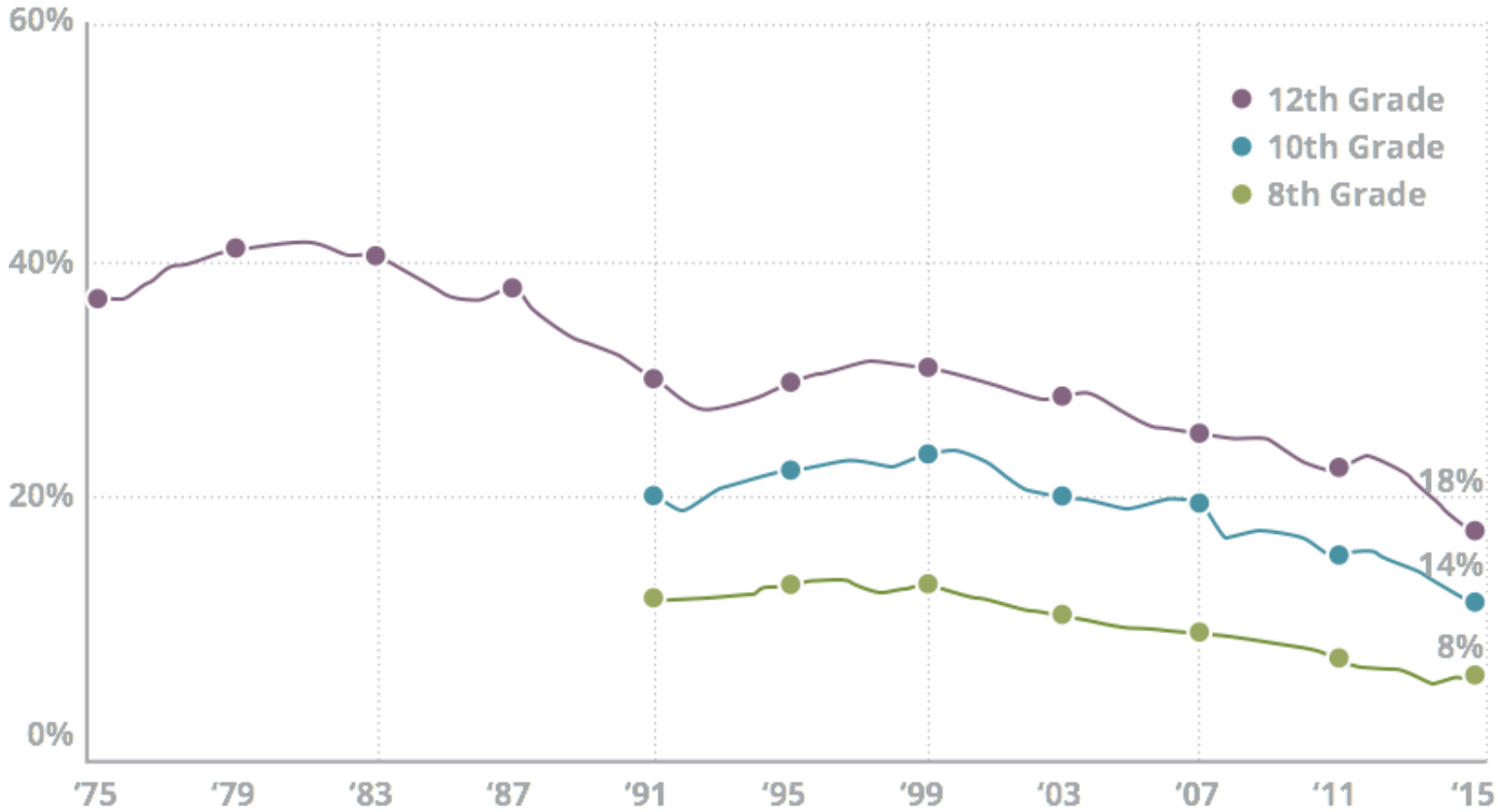
Levy S et al. Trends in Substance Nonuse by High School Seniors: 1975–2018. Pediatrics. 2020;146(6). Source: MTF survey

Perceived Risk of Harm and Marijuana Use - US 12th Graders: 1975 - 2015



Monitoring the Future Survey 2015

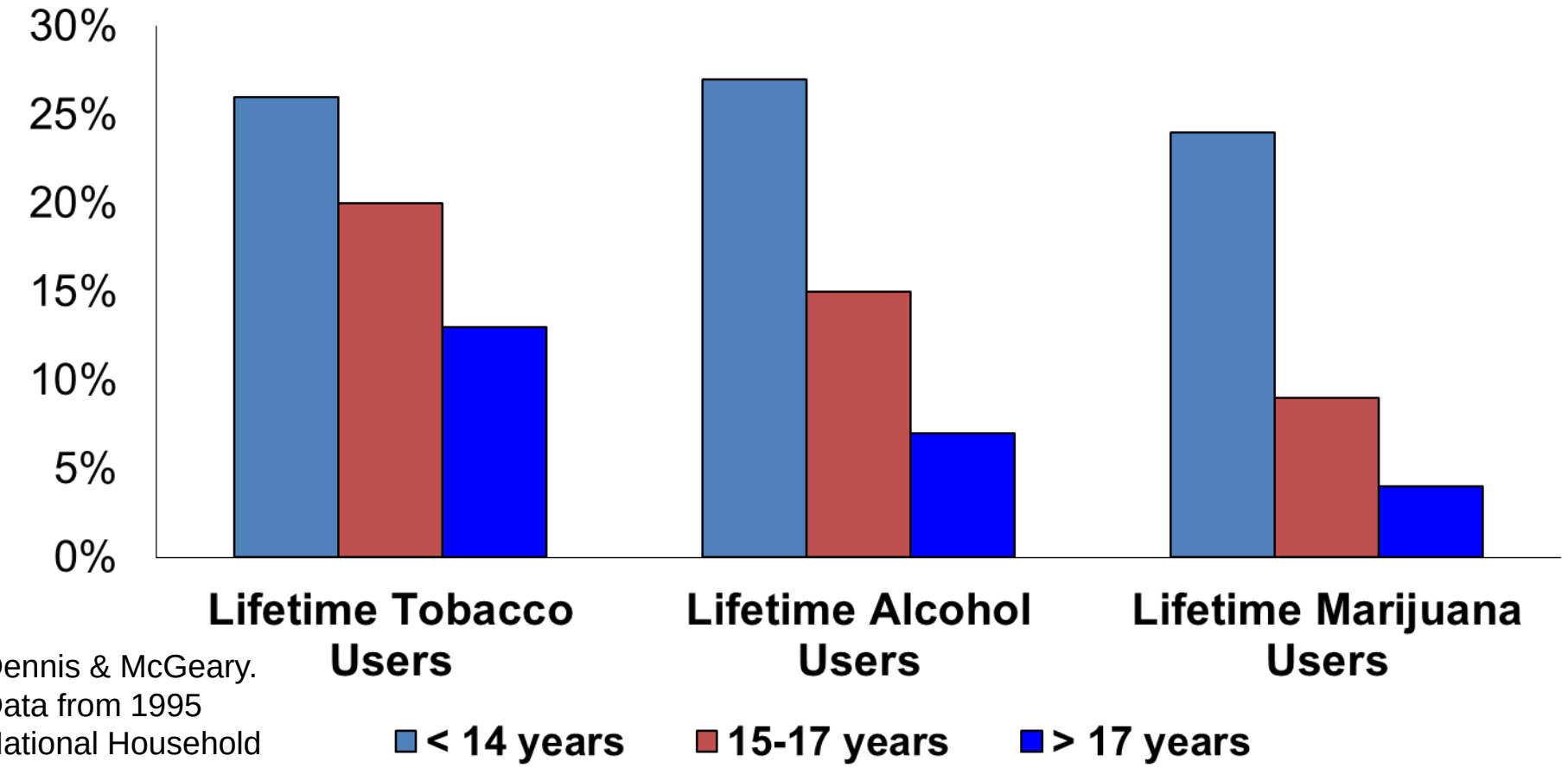
BINGE DRINKING (5+ Drinks)
Past 2 Weeks



Monitoring the Future Survey 2015

Does Development Matter?

Probability of Having 1 or More Dependence Symptom(s) as an Adult Based on Age of First Use



Dennis & McGeary. Data from 1995 National Household Survey on Drug Abuse

Adolescents Are Vulnerable

- Early substance use = high risk of addiction
- Adolescent immaturity during critical development period = vulnerability
  - Impulsiveness and excitement seeking
  - Difficulty delaying gratification
  - Poor executive function and inhibitory control
  - Poor emotion regulation

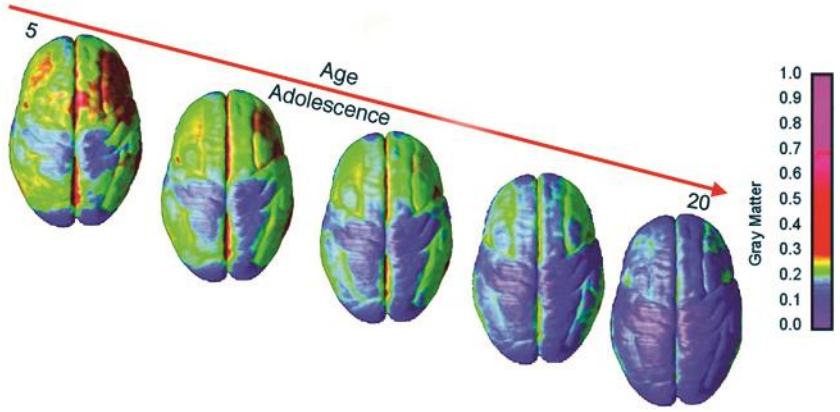


Image Source: PNAS 101:8174–8179, ©2004 National Academy of Sciences, U.S.A.

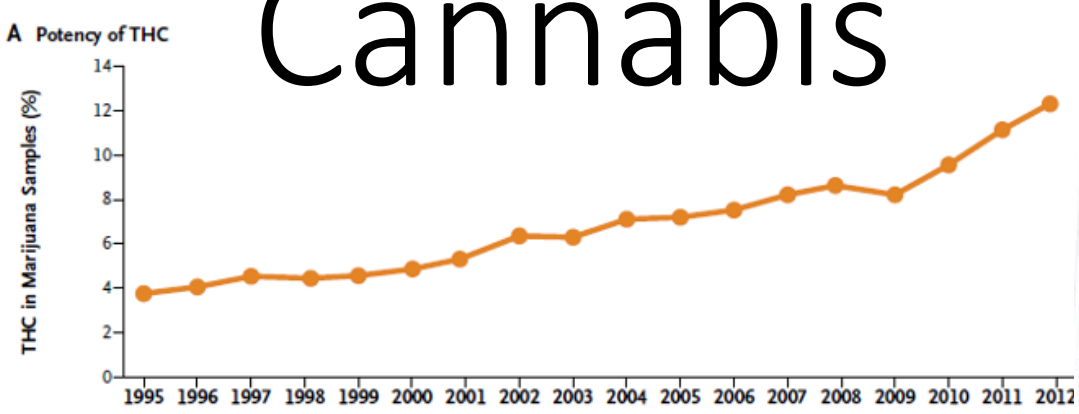
Resisting Temptation in Our Culture

What are they using?

- Alcohol
  - Beer, sweet drinks, hard seltzer, pre-mixed cocktail cans
- Cannabis
  - “Weed,” vapes, edibles, “dabs”
- Nicotine
  - Vapes, flavors
- Opioids – all fentanyl
  - “Percs”
- Dextromethorphan
  - Coricidin – “skittles;” Cough syrup/ Robotussin – “Robotrips”


Beast Brownie
Peanut Butter Puffs
200mg THC
Cocoa Krispy
Gluten Free
200mg THC
Apple Jack Bar

Cannabis

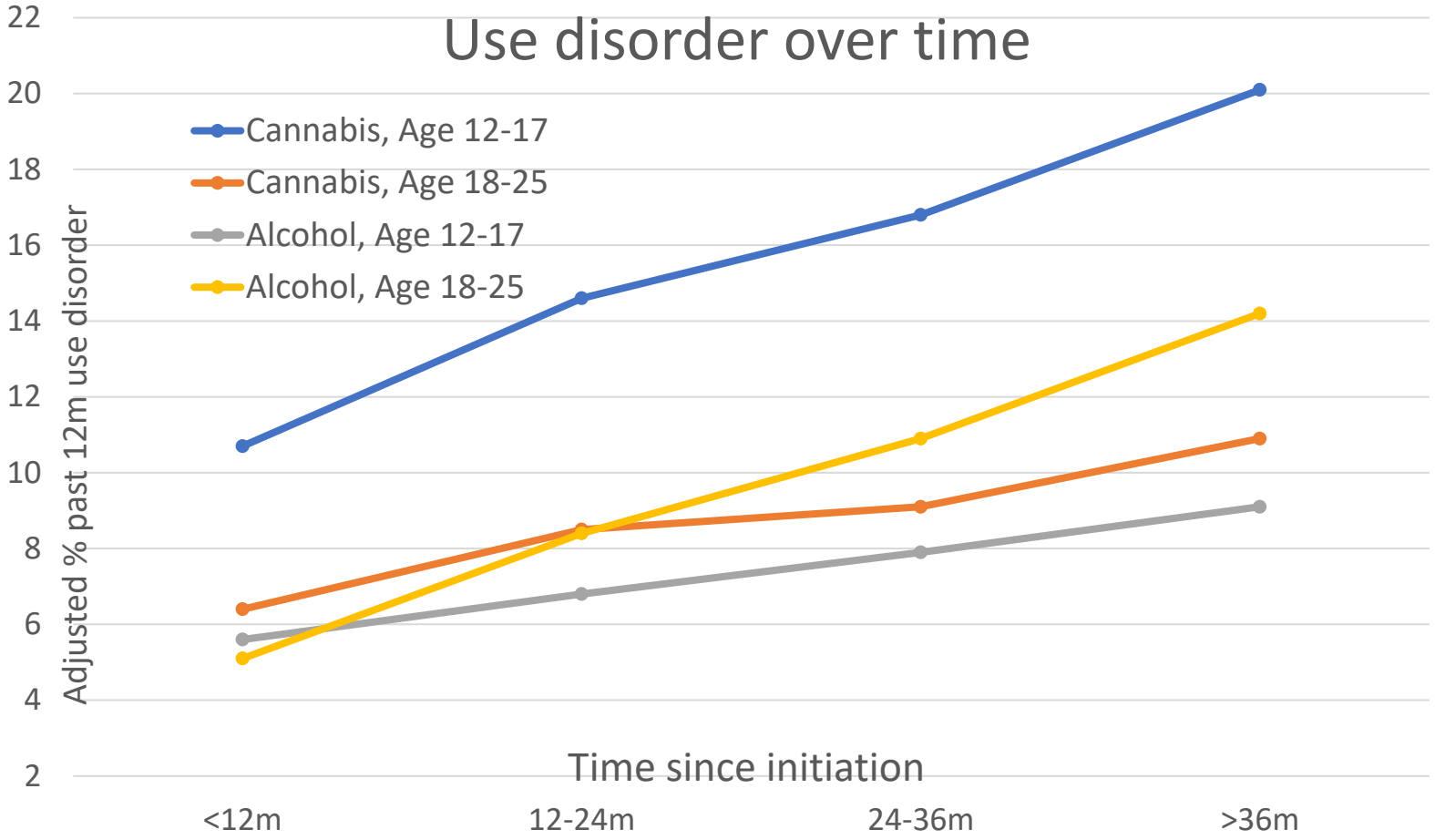

A Potency of THC
THC in Marijuana Samples (%)
0
2
4
6
8
10
12
14
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012


Pineapple Express Sativa

Why do we care about cannabis? What's all the fuss?

- Vulnerable populations: youth, psychiatric illness, other substance use disorders
- Acute consequences of intoxication, eg MVCs
- Psychiatric consequences of use
  - Depression/ anxiety
  - Psychosis
  - Cognitive impairment
- Progression to cannabis use disorders and other substance use disorders

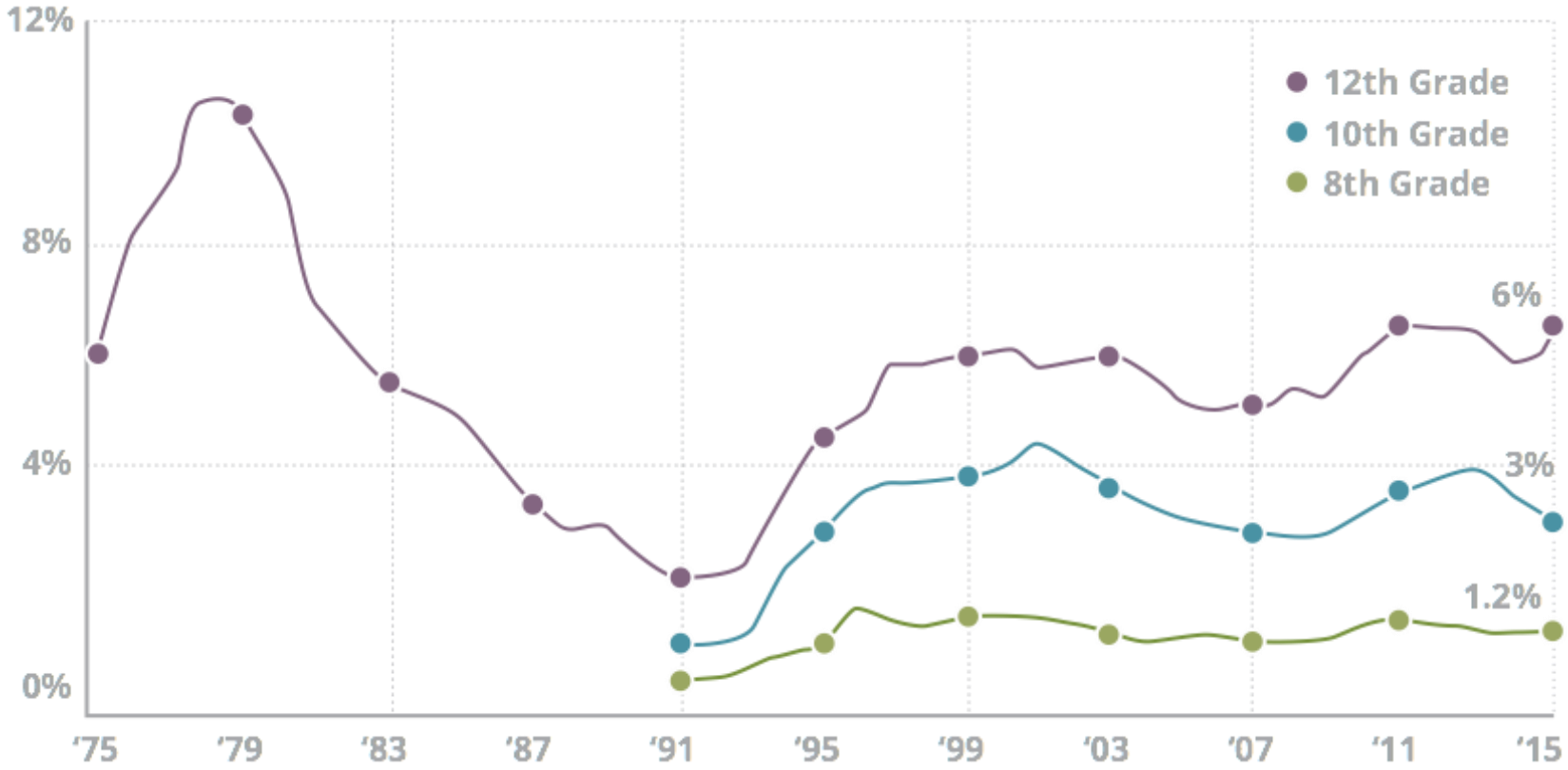
Early initiation confers high risk of progression



- Substantial rates of use disorder in youth soon after initiation
- Cannabis risk higher for adolescents than YA's
  - 10.7% vs 6.4% within 1 yr
  - 20.1% vs 10.9% within 3 yrs
- Cannabis risk higher than alcohol for adolescents

Volkow et al JAMA Pediatrics 2021.

% WHO USE DAILY



Monitoring the Future Survey 2015

Vulnerability in youth
Progression to addiction

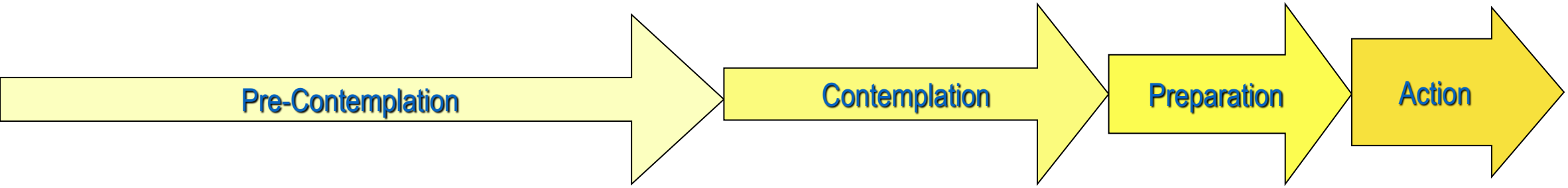
- Conditional risk of use disorder in adolescents as high as 40%
- Daily use of MJ <age 17 associated with substantially increased risk of:
  - Persistent MJ Dependence (OR=18)
  - High school drop out (OR=3)
  - Use of other drugs (OR=8)
  - Suicide attempts (OR=7)

Pooled longitudinal studies. N =2537 to N=3765.
Silens et al. Lancet Psychiatry, 1,: 286 – 293, 2014S

The SBIRT paradigm
Intervention matched to severity

- Positive reinforcement for youth reporting no use
- Brief advice for those reporting experimental use but not SUD
- Brief motivational intervention for mild / moderate SUD
- Referral to treatment for mod / severe or non-responding SUD

Treatment Engagement and Stages of Change



- Progressive treatment engagement
- Relationship and therapeutic alliance
- Motivational enhancement

Ineffective Interventions

Can we establish credibility despite historical exaggerations?

Motivational approaches

- Do you know other kids who have been in trouble…
- Do you know why I or your parents might think it's a problem…
- What are the pro's and con's for you…
- What would be evidence in your view that it's a problem…
- If you could stop anytime, would you be willing to see what it's like…
- Let's schedule you to come back and see how it's going…
- Will you go and see a specialist? Get another opinion?

Digestible messages
"Weed is not my problem, what's the big deal?"

- Intoxication impairs judgment, more likely to do something you'll regret
- Being around people with MJ usually means being around people who are more likely to be trouble (including other substances)
- Teen brains easily bruised. Intoxication as a psychological and biological habit that progresses. "Sledgehammer" reinforcement by substances. If you keep pushing that button, the pathway gets stronger
- Maybe a little is ok, but is what you're doing "a little?"
- Maybe it's not that it's never ok, but that it's not right for you **now**
- Yes you could be the special rare exception but why gamble
- If it's that good and that important that you can't accept this advice, what does that tell you?

Readiness Rulers: “How ready are you to …”

On a scale of 0 to 10, how IMPORTANT is it for you right now to change?

0___1___2___3___4___5___6___7___8___9___10

Not at all Important — Extremely Important

On a scale of 0 to 10, how CONFIDENT are you that you could make this change?

0___1___2___3___4___5___6___7___8___9___10

Not at all Confident — Extremely Confident

“What would it take to move you from a 4 to a 6?”

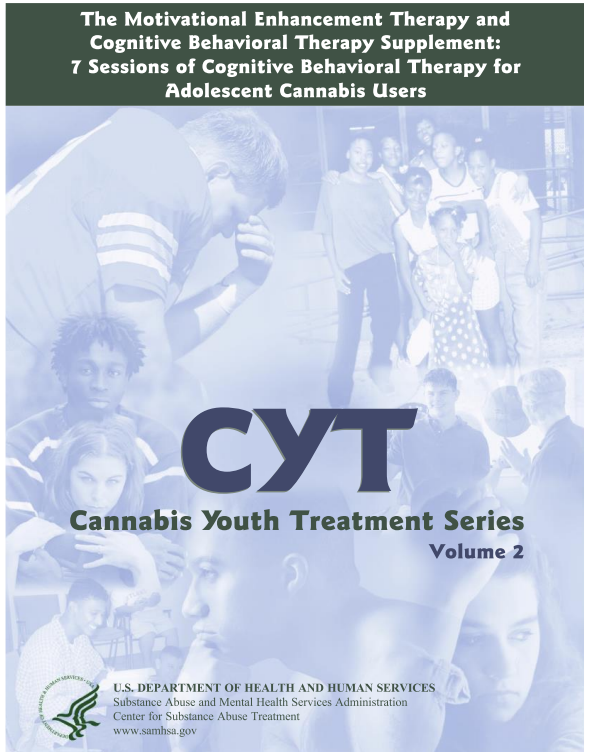
Some typical CBT sessions

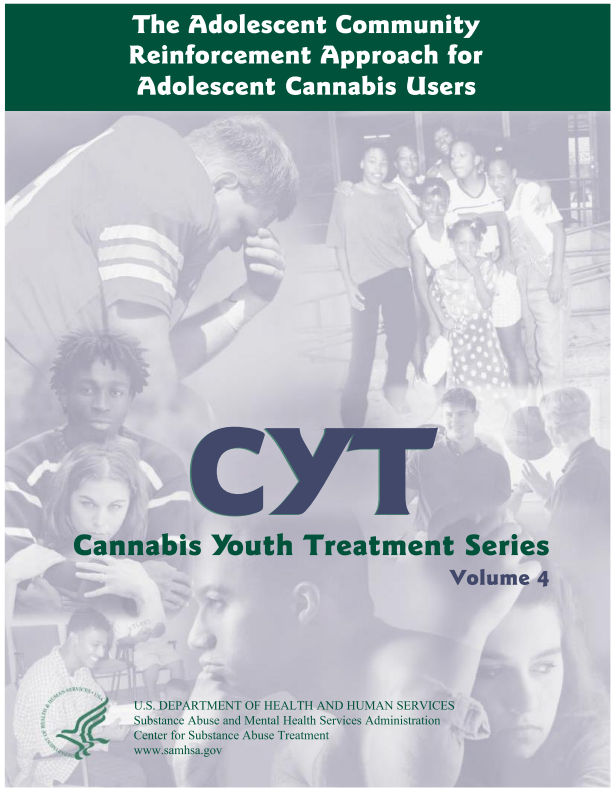
- Refusal skills
- Relapse chain analysis
- Improving your social support network
- Increasing pleasant activities
- Relapse prevention
- Planning for emergencies and coping with relapse
- Managing thoughts about using
- Coping with cravings and urges
- Problem solving
- Communication skills
- Anger awareness
- Anger management
- Coping with depression

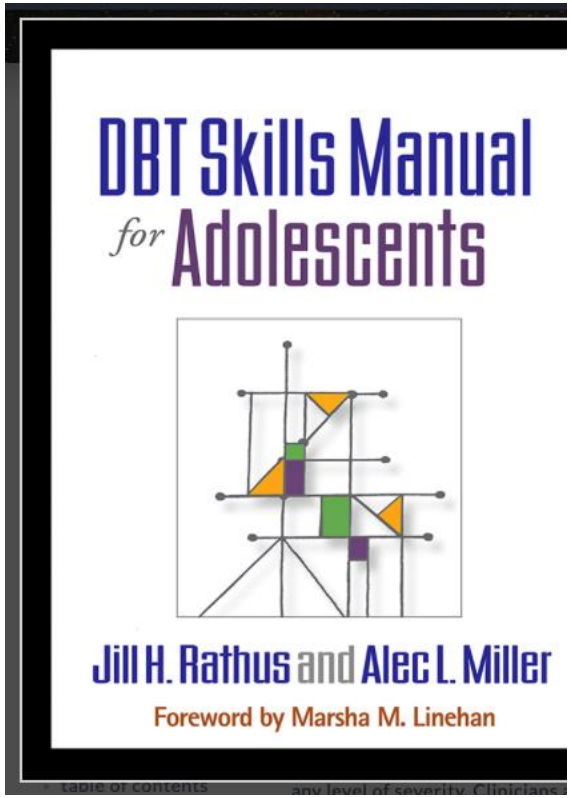
Relapse chain analysis

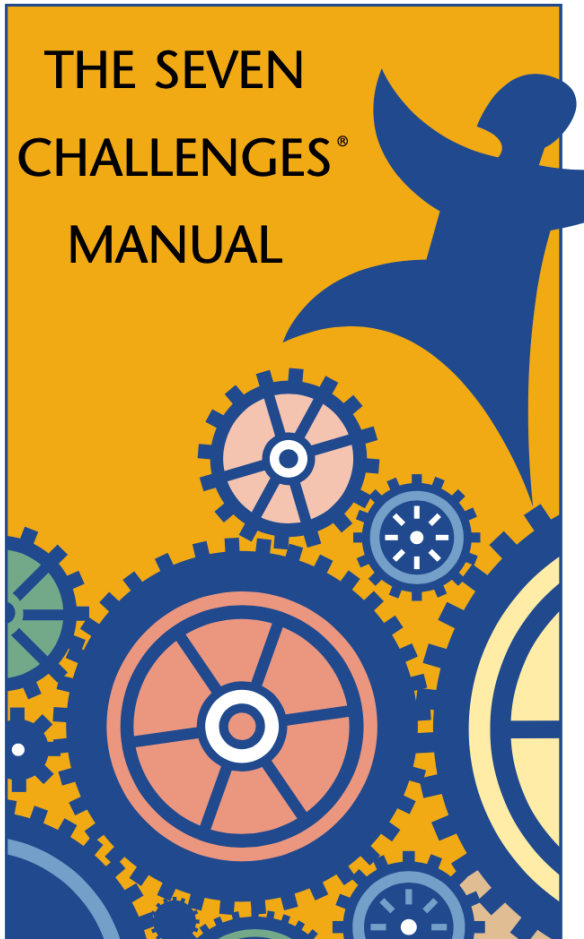
- Problem: What are the antecedents of particular episodes of substance use?
- The puzzle:
  - Why did you use yesterday? I don't know.
  - Never mind why, let's focus on what and how. What were the circumstances that led up to the episode of use? I don't know. My friend passed me a blunt and I hit it, what am I supposed to do?
- The solution: chain analysis.
  - "Rewind slo-mo" – break it down into tiny steps.
  - What happened before that, and what happened before that?
  - Perhaps seems trivial to us, but remarkably unintuitive to our patients.

Examples of adolescent counseling manuals





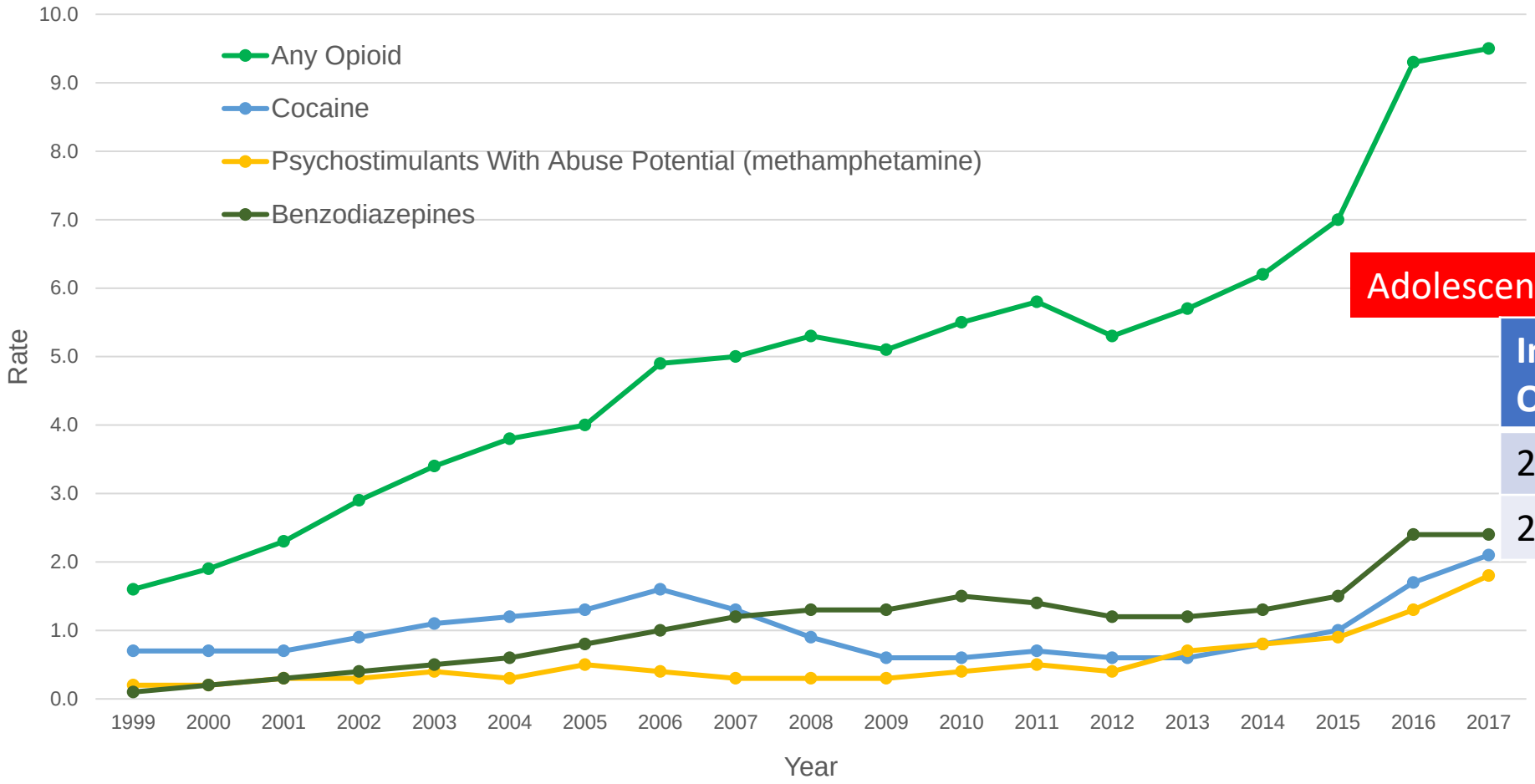




- https://www.chestnut.org/lighthouse-institute/store/
- http://www.sevenchallenges.com
- https://behavioraltech.org/about-us/

Overdose Deaths – Type of Drug

US Adolescents and Young Adults (15-24 year olds)



Adolescent ODs up disproportionately

Increases in OD deaths	Total	Adol (14-18)
2019-20	30%	94%
2020-21	15%	20%

Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released December, 2018

Intervention for youth substance use is **Prevention** for youth OUD

- Addiction – a developmental disorder of pediatric onset
- The vast majority of youth who initiate opioids have problems with other substances first
- Earlier onset associated with worse outcomes
- Earlier intervention associated with better outcomes
- OUD as advanced, malignant stage in progression of illness
- Prevention of OUD by treatment of non-opioid SUD prior to opioid initiation – cannabis, alcohol, nicotine

Sharma B, Bruner A, Barnett G, Fishman M. "Opioid Use Disorders" in *Substance Use Disorders*, Hsiao R and Walker L, eds. *Child and Adolescent Psychiatric Clinics of North America*. 25: 473-487. 2016. NIHMS 776910. PMID: 27338968

MOUD for adolescents and young adults
Summary of the evidence

- Buprenorphine and XR-NTX clearly effective, though less youth-specific research
- Outcomes very good, not as good as for older adults, but far better than without medication
- Longer is better; no evidence for time limitation
- No signal for safety or efficacy problems based on age
- MOUD first line; No evidence for fail-first
- MOUD – should be STANDARD OF CARE

Borodovsky JT, Levy S, Fishman M, Marsch LA. Buprenorphine Treatment for Adolescents and Young Adults With Opioid Use Disorders: A Narrative Review. *J Addict Med*. 2018 May/Jun; 12(3):170-183. PMID: 29432333

Family Engagement:
Historical Barriers

- Normative pushback against **sense of parental dependence and restriction**
- Clinicians: lack of training, competence, comfort
- Focus on **internal transformation**
- Preoccupying focus on “enabling”
- Over-rigid concern with **confidentiality**

Rationale for family involvement

Both **families and patients** need a recipe for treatment with role definitions, expectations, and responsibilities

Families have **core competence, deep connections, special powers of persuasion** and natural leverage that we as clinicians don't have

Family **mobilization** – "Medicine may help with the receptors, counseling may help with the skills, but you still have to parent this difficult young person"

Encouragement of emerging youth autonomy and self-efficacy **is compatible** with empowerment of families

How should we manage the confidentiality barrier?

- Following rigid limitations on disclosure?
- Making unilateral and surreptitious disclosures?

- Getting to yes

Approaches to family communication

- You can’t talk to my family

- OK

Approaches to family communication

- You can’t talk to my family
- Watch me

Approaches to family communication

- You can’t talk to my family

- What should I say when they call?

Approaches to family communication

- You can’t talk to my family
- Let’s talk to them together

Getting to yes

- This is what we do
- Let’s invite them in and see what happens
- Don’t you want their help
- What if I could help you get them to back off
- They’ll find out anyway and won’t it be better if it comes from you

Principles of Family Negotiation

The Art of the Deal – Getting to Yes

- Pick your battles
- Know your **leverage**
- You gotta give to get
- You have more juice than you realize
- Keep your **eyes on the prize**
- For families: rewards will work better
- For patients: earning family points will be worth your while
- For both:
  - Aren't you tired of battling?
  - How's that working for you?

Questions?
Discussion?

Therapeutic optimism remains one of our best tools!